

HANNA

**The Investment Banker's
Valuation of a Bond Issue**

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THE INVESTMENT BANKER'S VALUATION
OF A BOND ISSUE

BY

PHILIP SIDNEY HANNA

THESIS

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THIS IS TO CERTIFY THAT THE THESIS PREPARED UNDER MY SUPERVISION BY

Philip Sidney Hanna
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IS APPROVED BY ME AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE

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The Rate of Interest,

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The Most Satisfactory Bonds,

N.W.Halsey & Co.

Annals of the American Academy of

Political and Social Sciences.

Moody's Magazine,

August-November 1911.

Roger W. Babson's Lessons in Bond Buying.

Corporation Finance, Lough.

Business Barometer for Bankers,

Roger W. Babson.

Commercial and Financial Chronicle.

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INTRODUCTION.

The endeavor in this paper will be to treat of the principles involved and the methods used by the modern investment banker in his selection and judgment of bond issues. It is somewhat surprising, in view of the vast importance of bonds in the economic life of the country, that so little is written about the bond business. Particularly that branch of the business whose function is examining, judging, and purchasing new issues.

A great many of the opinions and statements made herein by the writer are conclusions arrived at after two years' experience selling securities, and from knowledge gained through a considerable acquaintance with practical bond men in New York and Chicago.

One bond man in Chicago, a friend of the writer, recently stated that the entire purchasing of railroad issues was done by ten or twelve men in New York, and that the basis on which they judge issues is known to themselves alone, whatever science they use, not being for public enlightenment. Contrary to this statement, Mr. Lawrence Chamberlain says, in his article, The Work of the Bond House, "It is only as one studies the purchasing function of the bond houses and the achievements and possibilities of economic service through the process of selection in purchases, that one realizes how rapidly bond investment is growing into a well defined and thoroughly developed science,---- then why not treat the principles of bond investment in scholarly fashion and credit the orderly study of them as the Science of Bond Investment."

Financing, as well as all other forms of business, is being

invaded by the scientist, and in the best bond houses of today, we find the old purchasing traditions giving way as the younger, college-bred generation, trained in, or at least in sympathy with, scientific methods, advances to influential administrative positions.

The writer would take the stand that scientific judgment of corporation financial strength is only sane and progressive, and that successful loaning can only be done on scientific judging. The admirable work of Mr. Roger W. Babson in this connection, and the very recent work of Mr. Chamberlain, are monuments that testify to the strong belief in this theory on the part of practical business men.

It is an old axiom of the bond house that "A bond well bought is already sold." This axiom in itself emphasizes at once the importance of the purchasing department and the part it plays in the success of any bond business. Mr. Chamberlain says regarding this, "The success of the bond houses in weathering all sorts of financial storms while stock exchange houses have gone down by the score, is strong support of the contention that bond investment rests on a basis of principles reducible to a science. The writer, (Mr. Chamberlain) knows of not one important investment house that has failed except through deliberate violation of perfectly well-known investment principles, or through equally deliberate fraud."

The need of greater skill and accuracy in finance is ably illustrated by the remarks of Mr. H. M. Byllesby, of the well-known engineering firm that bears his name, when he addressed the College of Engineering recently at the University of Illinois. His remarks were about as follows: "A few years ago it made little difference whether the cost of a railroad came within fifty per-cent of the

estimates or not. In those days the railroads could easily carry a floating debt of a few millions and gradually sink it, but today the engineer and the financier must work hand in hand. They must become so proficient in their respective sciences that railroad and other projects can be built within the estimates." The deduction from his remarks is this: There must be greater accuracy in building railroads because the roads must know exactly what financial load they will have to carry. It means that there is no margin to take care of the mistakes in estimates because, turning further to the bond purchaser, the financiers have reached the point where they have to finance scientifically and accurately.

The days of slipshod finance are past. We hear of soil-physics and intensive cultivation of our soil. Why? Because people desire to know more accurately just what may be expected from a given piece of soil. Recently we have seen the rise of the statistician in the bond business. Why? Because the investing public desires to know more accurately just what may be expected from investments. One of the oldest and most famous firms in Wall Street has recently admitted a statistician to membership in the firm. This event would have been scoffed at a few years ago.

The limits are being set on all sides. Commissions forbid increases in rates, often lowering them in the case of public utilities, and the labor unions are constantly dictating for increased wages. Materials are at best increasing in price too fast. On the whole, then, it is more imperative now than ever before to diagnose the actual condition of railroads, gas companies, and the multitude of industrial corporations more thoroughly and accurately.

The investment banker must necessarily have an expert knowledge of all the principles involved in judging the financial

strength of a corporation, and he must pursue methods which will lead him to a position of future safety. Thus it is essential that he maintain an expert purchasing staff. The methods followed by this staff are outlined very fully in the Appendix under the N. W. Halsey article.

It may not be amiss to state, for the benefit of those readers who do not clearly distinguish between bonds and stocks, that the term bond, as hereinafter used, refers to the contractual instrument drawn between a borrower and a lender. In most of the subject matter, the borrower is a corporation and the lender is virtually the bond purchaser (meaning the bond house). The relation constituted thereby is purely a debtor-creditor relation, the debtor agreeing, in consideration of the money loaned, to repay the creditor upon a certain date, and to pay a specified interest rate upon the principal at stated times.

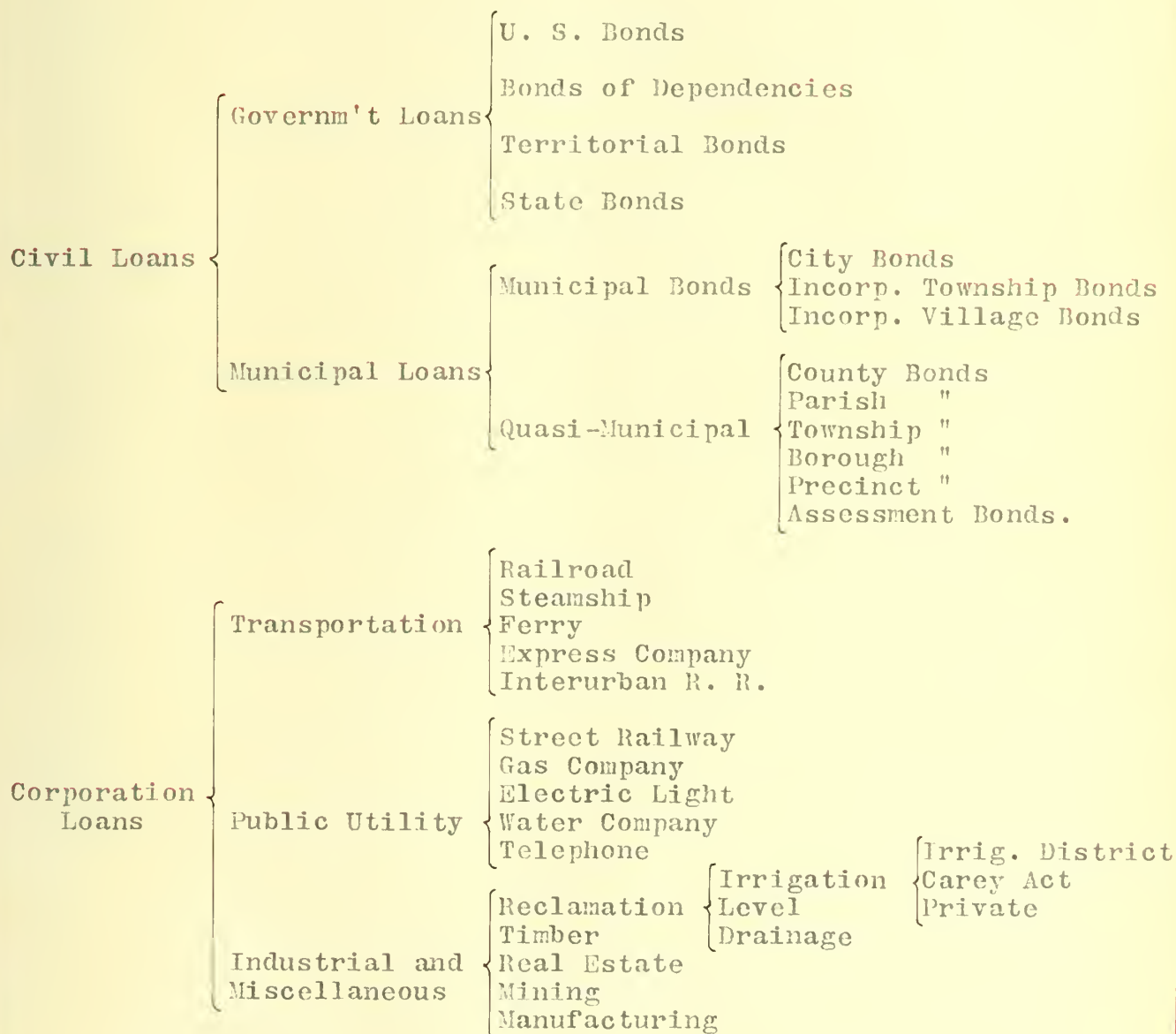
In distinction between bonds and stocks, it may be said, the bond holder is a creditor, and the stock holder is a partner.

For the purpose of acquainting the reader more fully with the subject, a classification of bonds according to obligor is submitted below. The table was made by Mr. Chamberlain. (See next page)

One notes at first glance the broad distinction between municipal obligors and corporate obligors, or it might be called public and private debtors. In the next division, one notes civil loans divided into sovereign debts and debts of the smaller governmental units. On the corporate or private side one notes the debtors divided into three general classes: those engaged in transportation, those operating public utilities, and those engaged in industrial pursuits. The last sub-division comprises a multitude of various debtors and is the field in which the greatest skill in selection of bonds is required. The uniformity of goodness that obtains in the foregoing general classes is lacking. The still further sub-division into subsidiary units ought to guide one who is interested in tracing the relationship of bonds.

The table is submitted here just as printed in Mr. Chamberlain's article, The Work of the Bond House.

Classification of Bonds
According to the Obligor



THE INVESTMENT BANKER'S POSITION IN FINANCE

The Investment Banker is a distinct type of "go between". He stands between the corporation which needs additional capital but without proper facilities for getting it, and his clientele which will buy certain kinds of bonds. He knows the whims and fancies of his clientele. He knows precisely what kind of bond and what rate of interest will prove attractive. He is versed in finance, and advises and suggests plans to the borrowing corporation concerning its bond issue. Furthermore, he has his reputation at stake, and will exert himself to the utmost to keep the borrowing corporation on a sound basis, aiding them in their financing so that interest payments will be met promptly and repayment made as the bonds mature.

It would seem at first thought that a corporation with proven financial strength and established reputation could market its own securities directly with investors to a better advantage than through the banking house and the underwriting syndicate, but the exact opposite has proven to be true. A pertinent illustration of this point, and one which proves that banking connections are an indispensable service to a corporation, is the famous experiment tried by the Pennsylvania Railroad Company in 1903 in marketing its own securities. *One of the Boston stockholders, a very able attorney named Mr. Moorfield Storey, submitted a resolution to the board of directors, which provided for offering a proposed stock issue directly to the highest bidder in open competition. He advanced the arguments, first, inasmuch as the Pennsylvania Railroad Company was the first railroad corporation in the world, and its securities were entitled to highest rank and price in

*New York Evening Post.

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both the United States and Europe; and secondly, inasmuch as there was abundant capital available for investment in securities, and that the directors should secure the highest possible price; and thirdly, inasmuch as an open sale to the highest bidder would do much to remove public belief that such securities are issued for excessive amounts and would tend to prevent legislation adverse to railroad corporations then threatening, that the directors offer the new issue in an open sale to the highest bidder.

In the above case, says the Post, "The reasoning is very plausible, but this method fails to provide for emergencies in time of financial stress when large bond houses must be relied upon for help." "A great many people made objection to the proposed method of sale on the ground that it would depress the market, and based their arguments upon the experience of the same company at a time when they offered a new issue of stock directly to stockholders at a reduction in market price." "In that case the market price was close to 157 before the issue was brought out at the new price of 120. The result was disastrous. The market fell at once to the level of the new issue." "The United States Steel Corporation tried a similar experiment in the same year. They offered an issue of bonds to stockholders at 65 which was selling in the market at par, and the result was similar to the Pennsylvania case. Both companies were forced to resort to the banking underwriters where the issues were disposed of only by paying a large commission."

Such results argue strongly in favor of a permanent connection between the borrowing corporation and the bond house. The Banker who handles the issues of any given corporation year in and year out, can insure the corporation its money at a cheaper rate because

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he knows its needs, and because he can get all the advantages of the money market by figuring ahead, whereas if he is only called upon occasionally, or in times of urgency, he is not able to place the borrowing corporation's securities so cheaply or quickly. The practice has thus grown up among many corporations, who are large borrowers, of placing whole issues continuously with the same banking house.

Another reason why large corporations have continued borrowing through one large banking firm is because of the great value of the investment banker's advice. In his capacity he advises the corporation as to the kind of securities that will find the readiest market; exactly when the issue should be brought out; and what features should be incorporated in the securities to make them attractive. He also practically determines for the corporation the price at which the bonds should sell, as will be shown in the fourth chapter.

The investment banker performs a double service for his clients. He does not go to the corporation and say, "Let me see your bonds and I will give you my price," but practically the opposite. He says, in effect, "Let us get well enough acquainted so that I can learn your strength and your needs, and then I will figure out with you how much I can pay for the issue." Thus the banker serves both as a consulting financier and as a purchaser. If the borrowing company is proposing a stock issue at a time when bonds would be a better addition to the corporation liabilities, or when a stock issue would not find a responsive market, the banker in his position can insist that the form of the security be changed, or that some feature, such as convertibility or repayment at an advance over par be incorporated in the features of the new issue.

Another very important service rendered by the big banker who

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buys whole issues is the way he "protects the market." He sees that no bonds are offered for resale at a price below his original selling price and particularly during the period when any of the original bonds are still for sale. At the moment any of the new bonds appear at a discount on his price, he must drop his price at once, and the result is dissatisfaction to the investor and loss to the banker, besides injuring the credit of the borrowing corporation.

Now let us assume that the same borrowing corporation is to sell its issues directly. They have no means of protecting the market, and the appearance of a discount price on their bonds before the whole issue had been sold would start trouble for them that might even bring disaster to the business. It is certain that they would lose money on the sale of that issue, and any future issue would find a very irresponsive market. Thus it seems plain that the investment banker is essential and that he performs a service which few businesses can safely perform for themselves today.

Last, but by far not the least important service rendered by the investment banker is making funds immediately available to the borrowing corporation. Just as you take your note for \$1,000.00 to the bank and discount it for cash or credit, the railroad or large manufacturing corporation takes \$100,000,000.00 of promises to pay, in some form or other, to the investment banker and discounts them for cash or credit. Large profits can often be made by a corporation in making an immediate improvement or trade movement, and if the corporation has a banker in regular employment who can raise immediate funds, the profit can be made when the opportunity arises. If the corporation were selling its own securities, the opportunity

THE INVESTMENT BANKER'S POSITION IN FINANCE

would likely have passed before the funds could be raised.

Bonds are the commodity of the investment banker. He buys at wholesale and retails almost like the shoe dealer or grocer, and, as in any sort of merchandising, there are few wholesalers, and many retailers. There are perhaps less than a dozen prominent wholesale houses, and the larger part of the business is done in securities of the great railroad systems.

The investment banker is indispensable to both the borrowing corporation and the investors. His intimate knowledge of financial affairs connected with his expert judgment of the borrowing powers of corporations, makes the service he renders almost invaluable. He may not be needed in times of prosperity, but he must be consulted in times of financial stress, and the wise borrower will generally be found with permanent banking connections at all times.

GENERAL PURCHASING PRINCIPLES

General purchasing principles and general investment principles are practically the same, for purchasing in the same word herein means investing. The first consideration of any bond is as to safety of principal. To illustrate the point, a quotation from Mr. John Moody's Principles of Analysis For Determining Railway Security Value, is set forth below.

"The first question usually considered by one who contemplates investing money on a partnership basis is the possibility of expansion in earning power. Few persons will knowingly place their funds in any undertaking which is not earning currently a satisfactory return, and only a limited number will consider going into a paying business unless they are convinced that there are possibilities of growth in the amount of profits to be secured. The hope that his money will earn from year to year an increasing return is usually the motive that induces a man to place his capital at risk on the same general basis that the active or working partner gives his share of his labor, and the fruits of his training and experience."

"The stockholder in any corporate undertaking is in precisely the same position as the investing partner, and it matters not whether the enterprise happens to be a steam railroad, a gas or electric light company, a trolley line or a manufacturing plant, the key to the position of the holder of the shares will be the question of profits."

"On the other hand, when a person loans funds to a business undertaking and receives some sort of security therefor, the primary fact for him to ascertain is not the amount of profits or the future prospects of the business, but the value and character of the property which is given as security for the loan. In other words, he places

GENERAL PURCHASING PRINCIPLES

his capital at work by loaning it, not to get the benefit of increasing earning power or to share in the future growth of the business, but to insure himself a definite return on his money for a fixed period without regard to changes in the character or volume of the business, for the carrying on or development of which the money may have been borrowed."

It is the writer's opinion that the expansion in earning power, while not a direct factor of security, is precisely the feature of any undertaking that makes a bond increase in value as it nears maturity. It seems that the stockholders, or owners of the business, who are in fact, the debtors of the bondholders, will be much more able to repay their loans if they experience an expansion in profits. Here ownership of property valued in excess of its bonded debt should not satisfy the bondholder, for he expects interest payments as well as principal repayment, in fact most bondholders invest for interest, (certainty of principal repayment being assumed), and consequently the expansion in earning power which interests the stockholder is of prime importance to the bondholder also. The earning power, in the writer's opinion, is a greater index of the force or strength of a business than is the value of its property.

As a general purchasing principle, the writer suggests that an inquisitor should determine whether the borrowing corporation is earning profits that maintain a given reasonable proportion to the value of the property. The inquisitor can do this only by aid of accountants and appraisers. The appraiser should determine the amount of yearly depreciation of all the property, (real estate, buildings, machines, patents, etc.), and the accountant should see that funds are reserved to replace the same when it becomes necessary. Now, after deducting losses of this kind if the accounts exhibit

from year to year a steady or an increasing proportion of profits to property, the corporation may be considered an excellent risk and the bondholder may safely loan his funds upon the corporation property.

The purchase of bond issues arises in a number of different ways and there are several well defined steps in the negotiations. The first step in the process is to discard the propositions of companies which conduct a kind of business which is unfamiliar to the bankers. Except under unusually favorable circumstances, the highest grade bond houses will not purchase bonds of industrial corporations, mining, or irrigation companies, etc.

The next step is to discard loans that do not have a plain and property worth more than the amount of the obligation secured. The margin of security running from 60 to 85%, varying according to the character of the property. Most corporations will bond themselves in as large amounts as their bankers will permit. Loans are continually being rejected because of insufficient equity in property value.

The third step is to discard those propositions which do not give reasonable assurance of earning at all times at least 50 percent more than all fixed charges, after making extremely liberal estimates for future increased operating expenses.

The fourth step is to decline loans to companies conducted by men or with methods which do not meet with approval. If the banking house is satisfied by interview and correspondence in matters of the above nature, and if a suitable price can be agreed upon, then engineers and accountants may be sent to the plant and offices to make a thorough examination; and members of the firm with counsel meet the officers of the company and their attorneys to settle the matter of form.

GENERAL PURCHASING PRINCIPLES

On acceptance of an issue, a careful bonding house may demand representation on the directorate of the company until such time as the company shall have discharged its bonded obligations.

Mr. Chamberlain quotes an interview between the engineers of an interurban line and himself during the inspection of the property of the new line, in the appendix, as illustrating the care with which properties are examined.

The reactionary effect of the stringent requirements of bond houses is of inestimable benefit to corporation finance, and its influence for good has a sphere very wide, embracing municipal corporations and municipal finance. American bond houses have placed municipal bond buying on an entirely different plane from what it was in 1875. *In this way they have been helped by, and have helped, the development of municipal bond law. In these days cities and towns that have had much experience placing bonds will be certain in advance of their advertisements for bids that the loan has been issued in conformity with the exacting requirements of the bond attorneys. Certain strong Canadian houses command such respect in their country that they have been able to direct the legislation of the Western provinces to the end that the Western loans may be more acceptable to the investors in the Eastern provinces and in England.

Almost every bond advertisement and nearly every piece of selling literature or magazine literature seems to be built upon the same text, "A good bond must have safety of principal, marketability, and reliable and sufficient earning power."

*Mr. Lawrence Chamberlain,

"The Work of the Bond House."

These most common arguments ought to be familiar to the reader by this time, owing to the wide dissemination of bond literature. However, looking at the situation from the opposite standpoint, we see that the problem of the bond purchaser is to determine whether these qualities will obtain. He must forecast the action of forces over which he will have little or no control, and his success will be measured in the same degree as his forecast is correct.

The banker wants to know as a first purchasing principle if the borrower will be resourceful enough to mature his obligation and to meet his interest payments. It is a very simple process in the case of the private individual who goes to the bank to borrow, for the banker knows, or can quickly ascertain, just how the individual's finances stand, but in the case of the huge corporation, an expert knowledge must be had and an analytical process must be used, which will dive deeply and thoroughly in the corporation's affairs and which will render just as competent a basis of judgment to the investment banker as the credit man renders to the commercial banker.

A letter from a friend who is in the bond department of a Wall Street bank comments on the principles of bond purchasing, viz:

"Primarily the investment banker would be interested in any issue of bonds that seemed to afford security as to principal and interest. The value of the bond would be determined, first, by the present price of money; second, as to how nearly the issue approached ready money. If the issue had perfect security it would be sold to the banker on a basis yielding but little more than the money rate. Every step that this issue departed from this quality of security would be reflected in a decreasing market value and a correspond-

ing increase in the rate of yield."

"The average yield of twenty high-grade bonds, such as would be accepted by savings banks under the laws of New York and Massachusetts for the past twenty years, has been 4.10%. If an issue sold over the same period at an average yield of 6%, the increase in rate would represent the increased hazard of principal."

"In considering the purchase of an issue the banker would naturally take into consideration, first of all, the property with its probable earning power over a long period, and the ability of the property to earn a sufficiently liberal surplus over fixed charges, including interest to take care of the obligation. The price the banker would be willing to pay for the issue would be determined by the money market at the time the issue was brought about, and he will expect a sufficient concession from this rate to enable him to bear the expenses of profitably marketing the bonds. "

"If the property was in course of construction the hazard would be much greater and the yield should increase proportionately. Indeed, the hazard might be so great that the banker would demand not only a large yield, but a substantial bonus in the form of stocks. In marketing bonds of this character the banker usually gives to the purchaser a proportion of such stock."

"Mr. Chamberlain presents an able summary of the investment factors looked for in any new bond issue, viz.:

"In the first place we must come to some conclusion as to the investment qualities we seek in examining the loans submitted for purchase. A careful survey of all possible excellences yields us ten elements for the ideal investment:"

Security of principal,
Stability of income,
A fair return,
Marketability,)
 (Convertibility
Value as collateral)
Tax exemption,
Freedom from care,
Acceptable duration,
Acceptable denomination,
Possibility of appreciation."

Whether the possibility of appreciation is not purely a speculative quality may be open to discussion, but otherwise the list is probably unquestionable and comprehensive. We may say, then, that if a bond house can obtain for its clients an issue with (1) principal reasonably secure, (2) interest payments reasonable and certain, (3) a fair return in income, (4) a fairly responsive market, (5) hypothecary value at the bank, (6) one that is not taxed directly, (7) requires merely semi-annual coupon clipping, (8) matures after a satisfactory lapse of time, (9) comes in convenient denominations, and (10) has as good a chance of appreciating as depreciating when its qualities become more generally recognized. Such an ideal issue does not exist, and there is evidently room for discrimination and selective judgment in buying.

The three qualities that receive the most consideration are security, income and marketability. Obviously, all three cannot exist in a high degree in the same paper. If the investment is safe it cannot return a high rate of interest and at the same time have

a broad and active market, for such a market implies competitive demand, and the competition for such a security that was at once of safe and high yield would immediately bid up the price and then lower the yield.

Therefore, assuming a good security, the first problem of the bond house is the choice it must make for its specialization between large transactions with small profits in issues with broad markets, and small transactions with much larger profits in a narrow market.

If, because of prejudice, or want of knowledge concerning its qualities, an issue is not in demand, and has to be sold painstakingly by personal solicitation, it may be both safe and of high return. Mr. Chamberlain sums up regarding the point of the practice of bond houses in dealing with their clients, viz:

"It is the principal and thoroughly commendable function of the better American bond houses to sell to their clients issues of bonds which have unimpeachable security, and yet yield an income considerably higher than would be the case were the issues well known to the investing public."

The great body of American civil loans, county, city, etc., are perhaps representative of security, demand and market, at the expense of income. At the opposite extreme we have public service corporation bonds as representative of reasonable security, and greater income, at the expense of market. In the middle position we find railroad bonds, offering less security than civil loans as a class, and inclining toward marketability rather than income.

PRICE COMPUTATION.

The simplest and most convenient price at which a bond may be sold is par. It is the ideal and theoretical price, for then the investor is relieved of all thought regarding appreciation and depreciation. He pays par and expects to be repaid par at maturity.

In theory the price should be par when the rate of interest of the bond is the same as the current market interest rate, but for numerous reasons in financing different deals it is expedient to set the rate of interest either higher or lower than the market rate, and thus a 6% bond in a market of 5% should command a price around 120, other things being equal.

Further consideration must be taken of appreciating or depreciating gold in setting the price. If the dollar you invest in a bond today will purchase only 9/10 as much when it is returned to you 20 years from today, you ought to expect to find provision made in the contract to compensate you for that loss. One way of accomplishing that end is to repay an advance over par at maturity or to sell the bond below par.

To the average investor, a bond at 108 looks more attractive than one at 102 because of the two points' profit and an apparently larger interest income. Seasoned investors become fully aware of these apparent advantages and take little consideration of them in the selections of their bonds, whereas the new investor must be educated to an understanding. The writer sold some securities in 1903 that netted the investor \$60.00 per year. In 1910 the same securities began to net the investors \$72 per year and naturally the price rose to 120, keeping the security on a 6% basis, but the investors failed to appreciate the significance of the rise in price. Many of them refused to buy more bonds because they said they would not buy

PRICE COMPUTATION.

securities above par and "pay some one a profit." Likewise when some familiar securities were offered at 93, netting not quite 6%, the same people bought them freely and congratulated themselves on getting so good a bargain. The writer has endeavored to find concrete proof of this theory that the public only appreciates a price below par, but so far without avail. The opinion as been expressed by several bond men that most issues are put on the market below par, and that they gradually rise to par as maturity approaches, or to the conversion price, if any, when the time of conversion approaches. A list of New York bond sales is given below just as an idea of interest to show the large number of active issues that maintain a price a little below par.

.....NEW YORK.....BOND TRANSACTIONS			
2000 Argentine govt 5s..... 97 1/2	14000 C R I-P Ry gen 4s..... 96 1/2 @ 1/2	5000 Liggett-M 7s 122 1/2 do 5s..... 94 3/4 @ 95 1/2	5000 St L-S F 1st 6s 110 1/2 do 1st 5s..... 107 3/4
1050 Jap 1st 4 1/2s..... 93 3/4	30000 do ref 4s..... 90 1/2 @ 1/2	1000 Long Island gen 4s..... 91 1/2	24000 do gen 5s..... 98 1/2 @ 99 1/2
1000 do 2d 4 1/2s..... 92 3/4	118000 do R R 4s..... 72 3/4 @ 73	2000 L-N gen 6s..... 110 1/2	25000 do ref 4s 80 1/2 @ 81 1/2
3000 N Y Canal 4s of 1961 new 103	1000 C-W 1 1/2s..... 105 1/2	18000 do unif 4s..... 90 1/2	70000 St L S W con 4s..... 81 1/2 @ 82 1/2
15000 Va bb cfts 6s 50	15000 Chino 6s..... 120 1/2 @ 121	7000 Mer Mar 4 1/2s 67 @ 68 1/2	15000 S A-A P 4s..... 87
1000 N Y City 4 1/2s of 1957..... 107 1/2	5000 C C C-St L gen 4s..... 93	25000 Met St Ry gen 5s cfts..... 103 1/2 @ 104 1/2	2000 S A Line adj 5s..... 83
3000 do new..... 107 1/2 @ 108 1/2	4000 do C W M 1st 99 1/2	6000 do ref 4s..... 81 1/2	65000 So Pac cv 4s..... 96 3/4 @ 97 1/2
8000 do 4 1/2s of 1960 102 1/2 @ 103 1/2	1000 C F-I gen 5s 100	84000 do adj 5s..... 58 1/2 @ 59 1/2	6000 do ref 4s..... 95 1/2
3000 do 4s of 1936 regd..... 99	9000 Colo Mid 4s..... 49 1/2 @ 50 1/2	5000 Mich Cent deb 4s..... 91 1/2	50000 So Ry 5s..... 107 1/2 @ 108
1000 do 4s of 1937 100	6000 Colo So 1st 4s..... 96 1/2 @ 97 1/2	3000 M-St L 4s..... 67 1/2	101000 do 4s..... 78 1/2 @ 79
3000 do 4s of 1939 regd..... 99 1/2	4000 do 4 1/2s..... 98 1/2 @ 99 1/2	5000 M K-T 1st 4s 98 1/2	2000 Standard Mill Ing 5s..... 88
25000 Allis 5s..... 54	1000 Con Tob 4s..... 95 1/2	12000 Mo Pac con 6s 107	1000 Texas Co cv 6s 95 1/2
4000 Am Hide 6s..... 99 1/2	9000 Del-Hud 4 1/2s..... 101 1/2 @ 102 1/2	14000 do 5s of 1920..... 100 @ 101	3000 Tex Pac 1st 5s..... 110 @ 111
2000 Am Ice deb 6s 74 1/2 @ 75	4000 do cv 4s..... 98 1/2	1000 do 4s..... 74	14000 Third Av 1st 5s 110 1/2
1000 Am Smelt 6s 103 1/2	4000 do ref 4s..... 90	4000 N C-St L 5s..... 109 1/2	4000 do con 4s cfts 80 1/2
24000 Am Tel-Tel col 4s 90 1/2 @ 91	3000 D-R G con 4s 89 1/2	3000 Nat Rys Mex 4 1/2s..... 92 1/2	45000 do cfts stpd..... 79 1/2 @ 80 1/2
42000 Am Tob 6s..... 121 1/2 @ 122 1/2	2000 do Imp 5s..... 95 1/2	1000 N Y Cent deb 4s..... 93	79000 do ref 4s..... 87 1/2 @ 88 1/2
1000 do read..... 121 1/2	50000 do ref 6s..... 88 1/2 @ 89	6000 do 3 1/2s..... 87 1/2 @ 88 1/2	151000 do adj 5s 76 1/2 @ 77 1/2
48000 do 4s..... 95 1/2	2000 Erie prior 11en 4s reg..... 98	31000 do L S 3 1/2s 84 1/2 @ 85 1/2	5000 T St L-W 4s of 1960..... 69
1000 Am W Pap 5s 88 1/2	11000 do cv 11en 4s 79	10000 N Y C-St L deb 4s..... 90 1/2	2000 Under Elec of Lon inc 6s..... 76
4000 Ann Arbor 4s 84	10000 do cv 4s ser B 76	12000 N Y G E L H- P 5s..... 104	7000 Un Pac 1st 4s 100 1/2 @ 101 1/2
3000 Armour 4 1/2s..... 92	7000 do Pa coal 4s..... 88 1/2 @ 89 1/2	6000 do 4s..... 85 1/2	1000 do reg..... 100
16000 Atch gen 4s 99 1/2 @ 100 1/2	9000 Gen Motor 6s 99	10000 N Y N H-H cv 6s reg..... 131 1/2	2000 do cv 4s..... 102
13000 do adj 4s stpd..... 92 1/2 @ 93 1/2	15000 Gt Nor 4 1/2s..... 101 1/2 @ 102 1/2	4000 N Y O-W 1st 4s 95	1000 Un Rys Inv 5s Pgh issue..... 85 1/2
41000 do cv 4s of 1960..... 101 1/2 @ 102 1/2	19000 Hock Val 4 1/2s 102 1/2	1000 N Y S-W ref 4s..... 103 1/2	8000 L S Rub 6s..... 104 1/2 @ 105 1/2
32000 A C Line 4s 96 1/2	1000 Houston E-W T 5s..... 104 1/2	4000 N Y Tel 4 1/2s 100 1/2	75000 U S Steel 5s..... 103 1/2 @ 104 1/2
5000 do L-N 4s..... 95	1000 H-T C gen 4s 95 1/2	6000 Norf-W con 4s 99	5000 Va Chem 5s..... 100 1/2 @ 101 1/2
7000 B-O gold 4s 98 1/2 @ 99 1/2	2000 Hudson Co Gas 5s..... 104 1/2	65000 do cv 4s..... 108 1/2 @ 109 1/2	1000 Wab 1st 5s..... 107
5000 do 3 1/2s..... 92 1/2	12000 Ill Cent 4s of 1953..... 99 1/2	1000 do div 4s..... 94	5000 do 2d 5s..... 98
4000 do W Va 4s..... 92	4000 do ref 4s..... 96 1/2 @ 97 1/2	2000 Nor Pac 3s..... 70	4000 do ref 4s..... 96 1/2
3000 Beth Steel 5s 95 1/2	269000 Int Met 4 1/2s..... 83 1/2 @ 84 1/2	4000 O R-N 4s..... 96	1000 do Pgh 1st 4s cfts..... 41
23000 B R T 4s..... 80 @ 81	33000 I R T gold 5s 104 1/2 @ 105 1/2	1000 N Y S-W ref 4s..... 103 1/2	4000 West El 1st 102 1/2 @ 103 1/2
8000 B U El 4s..... 102 1/2 @ 103 1/2	29000 Int Paper cv 5s 91 1/2 @ 92 1/2	2000 Ozark-C C 5s 99 1/2	2000 West Mary 4s 88 1/2
17000 Cal Gas 5s 97 1/2 @ 98 1/2	5000 Int Pump 5s..... 99	5000 Pac Tel-Tel 5s 99 1/2 @ 100	5000 do 1st 5s..... 100 1/2
6000 Can Ext Gas 101 1/2	1000 K C 5s..... 100 1/2	4000 Pa 3 1/2s of 1917 97 1/2 @ 98 1/2	19000 Westinghouse Elec 5s..... 94 1/2 @ 95 1/2
6000 Cen Ga con 5s 109 1/2	6000 Ky Cent 4s..... 94 1/2	2000 P Lorillard 7s 129 1/2	3000 do notes..... 97 1/2
12000 Cen Lea 5s 95 1/2 @ 96 1/2	1000 Kings Co E L P 6s..... 116	52000 do 5s..... 96 1/2 @ 97 1/2	1000 West Shore 4s reg..... 98 1/2
2000 Cen New Eng 4s..... 99 1/2	15000 do 4s stpd..... 85	15000 Pub Svc N J 5s 92 1/2 @ 93 1/2	5000 W-I E 4s..... 87 1/2
5000 Cen Pac 1st 4s 98 1/2	10000 Lake Shore 4s of 1928..... 94 1/2	10000 Rdg gen 4s 98 1/2 @ 99 1/2	14000 Wis Cent 4s..... 93 1/2
10000 C-O cv 4 1/2s..... 93 1/2	6000 do 4s of 1931..... 92 1/2 @ 93 1/2	1000 Rome W-O 5s 107 1/2	2000 do S-D 4s..... 92 1/2
50000 C-A 3 1/2s..... 64 1/2 @ 65 1/2		5000 St L I-M-S ref 4s..... 87 1/2	Total sales, \$3 688,000
1000 C-B-Q deb 5s 101 1/2			
4000 do Ill 3 1/2s..... 87 1/2			
71000 do 1st 4s..... 97 1/2 @ 98 1/2			
16000 do reg..... 97 1/2			
15000 C G W 4s..... 87			
1000 C-M-P S 4s..... 95			
29000 C-N-W gen 4s..... 92 1/2 @ 93 1/2			

PRICE COMPUTATION

The bond dealer's business is to sell securities, not to hold them, and of course, the quicker he "turns" and completely disposes of an issue, the greater is his profit. In this respect, he is just like any other merchant selling his goods. If the shoe dealer finds that reducing his \$3 shoes to \$2.98 makes the shoes sell faster, it is very likely that it will pay him in the end to sell the whole lot of shoes at \$2.98. It is the old adage of "Small profits and quick sales." Now it is very possible that the bond dealer follows the same theory when he puts a new issue out at 97-1/2 at a time when the competitive market should make his price 100. For example, take a 5% bond put on the market when interest is 5%. To meet competitive interest rates, the price should be 100, but at 97-1/2 the bond may sell enough quicker to make the bond dealer's net profit greater than at 100, on account of the quicker turning of the bond dealer's capital.

In general, if money is ruling at 5%, it will be necessary to sell a 4% bond somewhere near a 5% basis of income return. There are, however, a great number of factors entering into the price determination that affect prices. As a bond, such as the obligations of the City of New York, has a surplus of security there will be a decrease in the net return, such decrease being effected by making the stated interest less than the market interest. In the New York obligations, the interest as stated in bond is 4% and it commands a price around par. The conclusion may be drawn that on account of the great reputation of the City of New York and the value of its taxable property, its securities are in high demand and have a surplus of security, hence they find a ready market with a yield approximately 1% under the market yield.

PRICE COMPUTATION.

Similarly, if a bond lacks a high regard by the investing public, or lacks those qualities which make it in great demand, it may be said to have a deficiency of security and will not command such a favorable market. In order to sell a security of this kind, such as coal bonds or timber bonds, it is necessary to fix the stated interest higher than the market interest and thus sell them at a price which will attract capital. There are many people with special information about coal bonds or timber bonds who are glad to venture because they can discriminate in their selections, but the average investor figures that any increase of stated interest over market interest represents hazard insurance. The writer would state the principle of price determination viz:

"Market interest yield means perfect security. As the yield from any bond approaches or recedes from market yield, thus does the security of the bond approach or recede from perfect security."

The following interesting opinion of Mr. Edward Ferriss, of N. W. Halsey and Co., Chicago, throws some light on the question of prices of new issues. He says in part, "The price which an investment house pays for an issue of bonds is figured approximately as follows: Start with the figure at which the bonds will 'sell' and then deduct profit." For example, the Chicago Sanitary District 4's were recently bought by a large house. They were figured to sell at the price of $99\frac{3}{4}$. It is such a gilt edged issue that the margin of profit is necessarily at a minimum, said margin of profit being figured at $\frac{3}{8}$. Thus the price paid was $(99\frac{3}{4} \text{ less } \frac{3}{8})$ or $99\frac{3}{8}$.

"In the case of the Chicago Railways recent issue of \$1,000,000, the buying bond house paid $102\frac{1}{4}$ for the issue, then the buying

PRICE COMPUTATION

house resold them to the banks at $102-1/2$, and they are now quoted on the exchange at $102-7/8$ to 103 . In these two examples, the bonds were absolutely A/1, there was a large demand and small supply, and the element of hazard was practically lacking, so that the profit to the bond house was necessarily at a minimum. Some houses figure that the advertising they get as a result of handling such important issues is worth the extra cost to them." "The general principle is, find out first what the bond will sell for, and work backward to find out the price of purchase."

This plan seems, at first thought, almost out of harmony with Mr. Chamberlain's theories of scientific judging and buying, but on careful consideration it is plain that the selling price can never be any other than the one you can induce the investor to pay. Thus it is the problem of the bond dealer to figure out, "how much can the corporation borrow, not what shall be the price of the bond."

The advertisement of F. J. Lisman & Co., which follows on the next page, illustrates the gradual rise in price of many issues. In the theoretical case spoken of above, the price advanced as the bond approached maturity, but in this advertisement they quote advances which are due to the enhancement of the security behind the bond. In some of the southern railroad bonds, the property behind the bonds has steadily increased in value for the past decade, and in conformity to the theory stated on page 17, the price of the bond has advanced. Pursuing the thought along the line of the theory, as the property grows in value, the security prices advance, thus lessening the net yield. Also, according to the theory, as the net yield approaches market yield, the deficiency of security grows smaller and the price advances toward par.

PRICE COMPARISON

A perusal of the following advertisement illustrates the appreciation principle, which is one of the factors in price making, and one of the favorite talking points of the bond salesman.

The Only Way to Judge the Future is by the Past

IN partial review of our recent newspaper advertising we show below 25 issues of bonds which have in the past been recommended by us to our clients. The table shows the prices at which the bonds were sold by us as compared with open market quotations on this date; on the other hand, no bonds recommended by this firm have ever defaulted principal or interest.

	Price when sold by us	†Present quotations	Advance
*Grand River Coal & Coke 1st 6s.....	90	95	5 ⁶ / ₈
*Pittsburg, Shenango & Lake Erie 1st 5s.....	90	113	23
Pecos Valley & North Eastern 1st 5s.....	90	Paid off at 100	10
*Mobile & Birmingham Prior Lien 5s.....	82 ¹ / ₂	104 ¹ / ₂	22
Union Pacific 6% Notes.....	85	Paid off at 100	15
*Kansas City & Memphis R. R. Bridge 1st 5s.....	90	102 ³ / ₈	12 ³ / ₈
C., H. & D. 4% Notes, 1913.....	80	99 ¹ / ₂	19 ¹ / ₂
*Mobile & Ohio Mont. Div. 5s.....	97	110 ¹ / ₈	13 ¹ / ₈
Raleigh & Augusta 1st 6s.....	104	115	11
*Silver Springs, Ocala & Gulf 4s.....	74	97	23
Sunday Creek Coal 6s.....	90	100	10
Burlington, Cedar Rapids & Nor. 1st 5s.....	95	Paid off at 100	5
*Galveston, Houston & Henderson 1st 5s.....	85	98 ¹ / ₄	13 ¹ / ₄
*So. Carolina & Georgia 1st 5s.....	90	103 ³ / ₈	13 ³ / ₈
Cincinnati Connecting Belt 5s.....	100	Paid off at 105	5
*Detroit & Mackinac 4s.....	65	92	27
Georgia & Alabama Prior Lien 5s.....	95	Paid off at 105	10
*Mil. & Lake Winnebago 1st 6s.....	90	102	12
Atlantic & Danville 1st 6s.....	90	Paid off at 100	10
Cent. of Georgia, Macon & Nor. 5s.....	86	107	21
Brunswick & Western 1st 4s.....	83	95 ⁷ / ₈	12 ⁷ / ₈
*Nashville, Florence & Sheffield 1st 5s.....	86	109 ¹ / ₂	23 ¹ / ₂
Minneapolis Street Ry. 5s.....	91	104	13
Atlanta, Knoxville & Nor. 1st 5s.....	101	112 ³ / ₄	11 ³ / ₄
Louisville, Henderson & St. Louis 5s.....	82	108 ¹ / ₂	26 ¹ / ₂

An average advance of over 14¹/₂ points

*Now listed on New York Stock Exchange.

†Published bid price—more would undoubtedly be paid.
January 27, 1912.

It is our business to study the intrinsic value which underlies a security, irrespective of the strength or standing of the obligor. In other words, we search through the market for a good bond on a safe and growing property, rather than for the obligations of a well-known corporation. If our judgment about the security being good is correct, the market price, with the ever broadening markets of this country, always takes care of itself—that is, as the securities in question become better known and demonstrate their value, there is a steady enhancement in their price.

Our present recommendations furnished upon request

F. J. Lisman & Co.

Members of New York and Chicago Stock Exchanges

**108 S. La Salle Street
CHICAGO**

New York

Philadelphia

Boston

Hartford

Providence

PRICE COMPUTATION

Regarding the effect of depreciating or appreciating gold on the rate of interest

Prof. Fisher says,* The influence of monetary appreciation or depreciation on the rate of interest will be different according to whether or not that appreciation or depreciation is foreseen."

" If appreciation is foreseen any increase in the burden of the debtor may be offset by a reduction in interest. If depreciation is foreseen any increase in loss to the creditor may be offset by increase in interest or by payment of a premium in addition to the principal at maturity." The present declining rate of interest coupled with depreciating money and higher prices makes the selection of high interest paying bonds a serious problem. The banker is constantly confronted with that problem in his purchases and the demand for greater return from his investors. For example, it is not uncommon to note advertisements of issues which may be repaid on any interest date at 105 or 110, or which provide for repayment at maturity at 105 to 110. The shrewd investor will not be over-enthusiastic about such a provision, because he may realize that the corporation, while adding an attractive selling feature, is also providing itself with a loop hole which it may use to liquidate a high interest-bearing obligation in a period of cheap money. The conditions of the money market may be such that it would be better to pay off the obligation at the advanced price and then renew the loan on better terms. #

It is the writer's opinion that bond prices, aside from the general fluctuation in money rates, follow a well defined cycle of rise and fall in the net return, which might be called the demand or a popularity fluctuation. The theory is, viz:

Every class of bonds enjoys a period when it is popular. The

* Prof. Irving Fisher, Rate of Interest.
Wm. S. Gilmore, Wm. S. Gilmore & Co.

PRICE COMPUTATION

demand for this class begins to increase at once, and of course the price increases with it, so that the net return or the effective rate of interest begins to fall. The periods are often several years in length. When bond men begin to find their clients complaining about high prices and small returns from the popular issues, they look about for a substitute which will satisfy the investor by reason of its slightly greater net return. However, as soon as the substitute begins to be bought up by prominent ^{investors}, the demand rises and of course the price, so that the bond men must again look for a substitute.

The working of this theory is well illustrated by the price record of railroad securities in the past decade, compared with public service corporation securities.

The average yield of twenty high grade railroad bonds, such as would be accepted by savings banks under the laws of New York and Massachusetts, for twenty years past, is 4.10 $\frac{1}{2}$ %. The trend of the yield has been steadily downward, due to the popularity of the class.

The average yield of twenty high grade public utility bonds is now close to 5 $\frac{1}{8}$ %. As a class they are in the height of their popularity, and a perusal of the bond offerings will show that the net yield is beginning to decline gradually, due to the demand premium which is added to the price.

The railroads have enjoyed unusually cheap money ever since railroad bonds as a class have been in vogue; but with the rise in popularity of public utility bonds, the demand for railroad bonds has not been so keen, and they will have to bid up a little for money. Public utility bonds will enjoy a period of cheap money until some other class begins to bid up for money and reduce the

BUYING RAILROAD BONDS

demand for public utility issues and the popularity for them.

Popularity of bonds may be stated here to be the demand or the preference shown by leading investors for that bond or class of bonds/^{of} which they purchase the most. Wealthy men who buy large quantities of bonds are constantly advising with one another as to good purchases and thus the writer speaks of a rise in popularity. This opinion was also expressed by Mr. Ferriss.

The above theory is offered to show the existence of another factor in price making. The attached clipping shows the relative yield of the three general classes to-day. According to the theory there will be a periodic shifting of the highest net return from one class to another

**YARD,
OTIS &
TAYLOR**



BANKERS

105 South La Salle Street

We Buy and Sell
High Grade

Municipal Bonds
Yielding 4% to 5%

Railroad Bonds
Yielding 4½% to 5½%

Corporation Bonds
Yielding 5% to 6%

BUYING MUNICIPAL BONDS

Mr. Roger W. Babson says " the business of municipal bond buying is divided into three divisions:

(1) That of Southern and Western municipals which yield a high rate and which are not considered very safe.

(2) Municipals of the Middle West, which are absolutely safe and which yield a fair rate of interest.

(3) Municipals of large cities and New England towns which are legal for Savings Banks of Massachusetts, New York and Connecticut.

The greatest profit, says Mr. Babson, are in bonds of the first division, but of course they are hard to sell. More bonds of the second division are sold by most houses because they are readily salable throughout the middle west. Bonds of the third division are absolutely safe, and in reality they belong to the same class as listed corporation bonds. In the east they are virtually considered as one issue and hence have a very broad and active market.

Mr. Chamberlain says, " Bonds are broadly divided into three classes, Municipal, Railroad and Corporation bonds. Some houses specialize in one kind and some deal in all kinds, but the principles and methods involved in buying each kind differ widely so that the question of purchasing is divided into three parts; namely, buying Municipals, buying Railroads and buying Corporation bonds.

The purchase of a municipal bond is a comparatively simple matter providing the municipality is well known to the banking fraternity. Then no preliminary investigation is required

BUYING MUNICIPAL BONDS

and a bid is made for the loan at current market rates and acceptance on award is subject to the approval of the banker's attorneys in all respects affecting the validity of the obligation. If the municipality is not well known a representative should be sent to learn at first hand the physical and financial condition of the city and to form an estimate of its probable future ability to meet its obligations."

"The problem of buying civil loans, the municipals proper, and the quasi-municipals such as county and tax district bonds, may be divided according to the character of their investment destination. From the business point of view municipals are broadly either "legals" or "general market bonds". A "legal" is a term applied to those bonds which have been approved by and which conform to the high requirements of the older, richer states governing the investment of savings bank deposits, trust funds and sometimes insurance company funds. Naturally the legals are a superior bond to the general market variety."

The buying of "general market" municipals is a much more complex problem. The security is always open to question. History is full of stories of state repudiation of its obligations and the stories are far worse of municipalities. The North American Review in 1884 said of Missouri, "Of 100 counties, townships and cities issuing bonds, nine-tenths have defaulted". The true financial competency of a community to issue, support and acquit bonded obligations is not so easy to ascertain as most people suppose.

BUYING MUNICIPAL BONDS

The factor of security is almost absent in purchasing a "legal", and it would be beyond reason to hold any banking house responsible for the default of an issue which is a legal investment for the savings banks of Massachusetts or New York. The questions of legality and validity are quite apart from those of financial competency or good faith of a city. It is the function of attorneys to establish validity. A record kept by Mr. Chamberlain in 1907 shows, of a total of 200 million dollars of municipals and state bonds issued, that about 2% were finally declined by the counsel of the purchasing house.

An apparently "legal" may be unsafe if its validity has been passed on by some incompetent attorney. There are many lawyers who are interested more in immediate profits for the bond house than for its future welfare. "Legal" opinions are cheap because of the existence of many such lawyers, and it is the duty of the bond house to protect its clients in this respect.

As a mercantile proposition the buying of legals narrows down to one of technical skill in sensing the current demands and steering the bid in that very narrow channel of profit between the "Scylla of competitive bids and the Charybdis of too high asking price"*

There are two daily publications that keep bond houses fully posted on forthcoming municipal sales and the terms and forms in which proposals may be sent. They also publish^a list of bidders at recent sales and the prices. The data for intelligent buying may be easily collected through these bureaus.

It is far easier to guess the price the bond will bring from the public than that which other houses will bid at the public sale-----
 Lawrence Chamberlain.

BUYING MUNICIPAL BONDS

but, even if the purchaser could be certain of both, he is not entirely safe. He must know the selling cost per bond so that his work is not for aught or perhaps at a loss.

The cost of selling is figured by one house at \$14 per \$1000 bond which includes all sales and brokerages, but at best the gross profit in selling legal municipals is not greater than 7.50 to 10.00 per \$1000. This seems very low and it is hard to see how bond houses can live on such small profits, but the compensating factor makes up for it. Bonds in the long run almost "carry themselves", i. e. they produce a sufficient income to offset the interest charges for hypothecation at the banks. The other merchants in mercantile lines have not this advantage, in fact, if anything their goods depreciate.

With a gross profit of one per cent that may be wiped out by a change in market it is essential that the bidding should be most circumspect. A proper equipment of books should be had which will show record of all past municipal sales. The records will show, the amount of flotation, coupon interest rate, the duration, the purpose of the issue, date, the price brought at the sale, the net yield at this price, name of the purchaser and net yield of bonds when retailed. Every one of these points is of prime importance in gauging the price to bid. The points to keep in mind when bidding are in the following order of importance; first, the price that the margin will bear, second, the margin acceptable under the conditions, and third, the competition price.

These principles and details become instinctive to a professional bond buyer. He can generally run through a few pages of proposals for bids and check off with almost unerring accuracy

BUYING MUNICIPAL BONDS

the cases in which no bids will be received, except perhaps the case where a local bank will bid up an issue for advertising or political purposes. The municipal bond buyer, for example, will examine the following proposal:

County of _____, Mass. \$20,000, 4¹/₂% bonds maturing serially at \$2,000 per year. The issue is so small that printing of circulars is too expensive, the state forbids the sale of municipal bonds below par: in this case a 4.25 basis. The best price obtainable would be a 4.25 basis, on account of existing money rates. This would mean a gross profit to the house of \$4.74 which would be too narrow, hence he would reject the proposal.

BUYING RAILROAD BONDS

In the field of buying railroad securities the principles are quite definite and now with the aid of the Inter-State Commerce Commission the facts can be reduced to a very definite form for an inspection of the railroad company's financial status.

The first consideration is proprietorship and management and, while it is not reducible to figures, it plays a big part in determining the credit of the road. Mr. Carl Snyder in "American Railways as Investments" says, "It is a curious fact of railway history that careful and conservative management tends to perpetuate itself.....The ownership of a road and the personnel of its management may change absolutely, yet it is curious to note how amid all these changes its character for good or evil will sometimes survive".

The conduct of a stock on the Exchange over a period of years, its dividend record, and its history during receivership will be a reasonably safe guide to the general health of the road.

The railroad bond buyer must be a keen analyst to detect the real security behind bonds that have been issued under circumstances such as those of the Rock Island. In that system it is well known that a relatively small amount of actual capital controls the entire system through stock pyramiding and holding companies. The underlying bonds appear to have valuable equities in earnings and security, but at the first sign of insufficient earnings they would rapidly fall in price. This is an example of a case where the careful bond buyer must be unusually keen and thorough in his analysis. Where there is a truly dominating interest such as Hawley in the Chicago and Alton, or Mill in the Great Northern, the questions of proprietorship become somewhat more acute. The character of the man is then under scrutiny.

BUYING RAILROAD BONDS

One desires to know whether he is a broad gauged, constructive business man, or simply an operator in the business for exploitation. The bankers that he is aligned with are an index to the latter point.

Often the dominating interest is composed of a group of men and the group must be subjected to the same scrutiny. There has been a decided development in late years of the well known "clique" among railroad financiers, operating under alliances and agreements which arise from the "communities of interest". It is a state of affairs essential to present economic conditions. The old rate wars were costly and the traffic alliance might possibly be called an offspring. Many alliances have been formed where stock control does not exist, often in the case of small independent roads tributary to the larger, powerful systems, which would be their most natural connection. In these alliances the small road is put upon a safe earning basis because of its traffic connections, but it stands in a good way to lose its corporate identity sooner or later.

The physical factors which enter into the consideration of railroad bond issues are location, mileage, character and condition of equipment and operating efficiency. These factors, however, are not so reliable an index, and do not play the important part that earning power plays in determining the financial strength of railroads.

Mr. Lawrence Chamberlain says of railroad issues, "Railroad bond buying like municipal bond buying does not look for the ability of the obligor to meet its debts as the chief consideration of purchase. The equities are usually sufficient to be accepted without the exhaustive degree of inquisition which must be given the affairs of a public service or other corporation because a large part of both municipal and railroad debt is intended to be institutional

BUYING RAILROAD BONDS

Hence the capacity for absorption and "digestion" is relatively great and these two types may be handled on a relatively narrow margin of profit".

"The margin of profit on railroad bonds is not \$7.50 to \$10. per \$1,000 as was shown in the case of "legal for savings bank" municipals, but nearer four or five percent. Besides, the market for railroad bonds is automatic on account of so many issues being listed, and therefore the initial profit does not have to contain a provision for a later cost of "supporting the market".

"Another point of similarity between railroad and municipal bonds is their division into two general classes; one which has almost unquestioned security, marketability, ^{and a good} record of past financing ^{and one where current earnings and prospects} etc., are the prime price factors".

"From the standpoint of the character of the debt and of the issuer, railroad bonds are more like general corporation bonds. The large railroad corporations are controlled by a coterie of New York bankers who absolutely have the first call upon any new issues of securities. They are a distinct ^{type} of wholesaler, almost monopolistic in their control, so that it is almost impossible for a retail house to buy directly from a railroad corporation. The retail ^{house} must align itself with the big houses as a secondary underwriter and purchase whatever may be offered without regard to price or quality. The man who does the buying must have tact as well as skill in order to make a profit for his house and at same time not give offense to the "powers that be".

"There is a constant temptation to follow the crowd into some new subscription that is uncertain and the bond purchaser must avoid these dangerous chances. It is almost impossible to ascertain the grounds or principles upon which these large wholesale houses

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buy their bond issues. They keep their plans very secret and one who tries to pry into the facts is apt to meet with a disappointing rebuff!

The manager of the Chicago office of a large New York firm recently stated to the writer that he had a serious notion to resign his position because, he said, "the New York office arbitrarily allots bonds for sale from this office that are not fitted to the demands of the Chicago clientele and which we have no means of knowing anything about. If the issue proves poor our clients will hold us responsible, and if we desire to compete with other bond houses it is necessary to unqualifiedly recommend these bonds of which we know nothing at all."

In placing a new issue on the market the wholesale houses put the subscription prices as high as the market will stand and the small $1/8$ to 1% that the retail house has for a margin may be quickly eaten up before the bonds ^{are} sold, by a sagging market. The difference between the retail market price to the public and the price received by the railroad as proceeds of the issue may be about 6 points, but it does not represent the real cost of distribution. The large New York house that negotiates with the railroad allots the issue to its sub-underwriters at a concession of $1\frac{1}{2}$ points, the latter sub-alloting among brokers at a concession of $\frac{1}{4}$, thus the retail house or a sub-underwriter that really takes the whole responsibility receives about 25% of the profit, whereas the New York wholesaler gets about 71% of the profit and takes practically no responsibility. Hence this franchise for exacting toll for every large issue of railroad bonds? Is it an evidence of sound economic conditions in any business when the wholesale profits are greater than the retail by almost 200%? The wholesalers argue that they

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are entitled to a reward for their capitalistic entrenchment because they have command of the capital necessary to exploit whole railroad systems, however, there are dozens of retail houses that would be able under "joint account" to handle the largest corporation loans placed in America, in fact they are practically the immediate repositories of the large loans now until public absorption. They carry the load but the wholesaler gets the remuneration.

There would be great benefits result^{ing} if the buying of railroad securities ~~were~~ done directly by the retail bond houses. It would separate the banking interests from the proprietary, and associate the banking interests with the investment interests, a movement highly desired and one which ought to come within a few years. It is necessary more and more even under present conditions for the retail house to be posted on all the bond issues of the railroads, and the movement in the last decade on the part of the railroads in converting their divisional mortgage issues into refunding issues under a blanket, open end mortgage is a step in the desired direction.

National banks and many other institutions are insisting upon the issuance of securities which will have a quick convertible and hypothecary value, and thus a much higher price may be obtained.

The provisions of these blanket mortgages are becoming standardized to the great benefit of railroad finance. The gradual retirement of miscellaneous mortgages and the substitution therefor of escrow refunding bonds makes a railroad debt a more simple matter of computation and appraisal besides making the bonds as a class more negotiable, which is a feature greatly desired by investors.

BUYING RAILROAD BONDS

Regarding the complexity of issues, mortgages, etc. Mr. Charberlain says, " Under past conditions a railroad bond purchaser must be familiar with \$1,500,000,000 of refunding bonds and forty or more issues, thus giving one an idea of the knowledge required of a buyer of big issues. Railroad scholarship is a deep subject of study and one so lengthy that it can not be considered in this paper. "

The buyer of railroad bonds must have a keen sense of market values and price trend if he would be successful, because the profit of turning is small. Some retail houses have discontinued a force of salesmen who handle listed bonds. Such selling must be incidental to the distribution of other issues which return a greater profit. A careful and thorough study of bond prices in general and the range of movement of the issue in question, will enable a progressive retail house to realize some profit from handling these securities. The selling is far easier to do rightly than the buying. A table of monthly and annual price fluctuations with the number and volume of sales will give one a good idea of relative cheapness and dearthness.

There are about 50 railroad corporations with a mileage over 1000, and these large systems very often have subsidiaries which issue various forms of paper from time to time. These secondary issues consist of equipment trust notes, terminal and divisional issues, and can still be bought by the retail bond house at a figure which will enable them to rake a good profit. The life of equipment notes averages about 5½ years, thus affording the bond house an opportunity to profit by reinvestment.

The relation of earning power to valuation and capitalization is competently set forth in Mr. John Moody's Analysis of Railroads, and a part is set forth hereunder as an item of interest.

BUYING RAILROAD BONDS

The Moody Analysis of Railroad Securities divides the investment factors, viz.:

" Physical Factors

Average Miles Operated

Equipment

Proportion of Freight to all Traffic

Passenger & Freight Density

Average Freight Train Load

Train Mile Earnings

Passenger & Freight Rate

Income Factors

Earnings and Their Distribution

General Income Account

Gross Earnings

Maintenance Accounts

Transportation & Other Oper. Expenses

Net Earnings

Other Income and Total Net Income

Fixed Charges and Margin of Safety

Disposal of Surplus

Capitalization Factors

Assets and Liabilities of the Railroad.

Balance Sheet

Capital Assets and Cap. Liabilities

Capitalization of Rentals

Stocks and Bonds out-per mile

Net income on Net Capital

Principle of Average, 1, 5, 10 years.

Bond Record and Ratings

The Primary Price Factors

Characteristics of Securities. "

Fixed Charges(and "Margin of Safety")

Briefly, fixed charges, viz.:

- " (a) Interest on founded debt
- (b) " " Floating "
- (c) Rentals
- (d) Sinking funds
- (e) Interest and Principal of Contracts. "

" Taxes stated separately, but included in charges.

Taken as a whole, the fixed charges of a property represents the sum it must currently earn and pay to be in a healthy financial condition. The reports usually state the items of fixed charges in satisfactory detail and the investor can therefor easily judge of their nature. It is frequently the case that a railroad has car and equipment trusts outstanding which mature serially, a portion of the principal as well as interest being payable each six months, or each year. Items of this nature must naturally be included in the charges just as sinking fund payments are, and often they are of such amount as considerably to increase the sum total of the charges in a given year. "

" The relationship of fixed charges to the property can best be judged comparatively, and when they are examined over a series of years the figures are of vast use. There is a direct relation-

ship between the gross business and general traffic density of a property and the percentage of this business required for meeting the charges. As has well been brought out by Mr. Mundy in his excellent book, the "Earning Power of Railroads", those roads the fixed charges of which have averaged not more than 30% of the gross income, have usually been able to withstand financial set backs with greater ease than roads with fixed charges greatly exceeding this figure. Therefore, properties, like the Lake Shore and Great Northern, which have spent liberal sums for the maintenance of their properties and for the development of an intensive traffic, thus keeping down the ratio of operating costs aside from maintenance, have been in better position to carry their charges than some other roads which, while showing advances in earnings from year to year, have been obliged to consume a larger proportion of the gross receipts in operating their trains.

But the vital question with the holder of bond issues on railroads is to know what amount of money remains available after payment of all operating and other current expenses for meeting the interest on the bond issues in which he may be interested. Assuming that he has examined the operating and income records in his report in a thorough manner and has ascertained the relationship of traffic density to the gross business, maintenance and other costs, and has also properly examined the sources of outside income, he is on solid ground for ascertaining the position of the bond issues in the results shown by the road. But while it is a matter of interest to know what amount of available surplus a road has shown over its charges for this or last year, the more

important thing is for him to know what the road has done in this regard for a series of years. This thought has been carried to a fuller development in the "Analyses" than has ever been attempted before. The available surplus above the charges of the different roads is not merely shown for 2 or 3 years, but is shown for an entire decade. In this way the investor is enabled to ascertain the trend of improvement or retrogression for a long series of years. In order to reach a fair basis of judgment the records for each year are averaged and the average showing made is the basis on which the entire property is analyzed. Comparisons are made as usual with the average results shown by other properties. "

" The margin of safety is the proportion of Total Net Income remaining over after payment of all current fixed obligations, including taxes, car trusts, principal and interest payments, miscellaneous items, etc. The records given show that the great majority of American railroads have presented comparatively high margins above their charges during the entire decade, and that in most cases a steady record of improvement has been shown from year to year. The following extract from the Table showing Margin of Safety on average results for the entire period on all railroads which are analyzed in this book will be of special interest. "

Name of Road	Margin of Safety		
	1st year of Decade	Last year of Decade	Average for Decade
A. T. & S. F.	51%	54%	55%
B. & O.	45	47	51
B. & M.	25	20	20
Can. Pac.	49	63	59
C. M. & St. P.	61	58	61
C. B. & Q.	44	53	53
C. & E. I.	40	18	38
Erie	15	16	25
G. N.	69	69	70
I. S. & M. S.	58	50	57
N. P.	58	63	65
Penn. Co.	21	38	32
" R. R.	37	53	53
Pere Marquette	--	1	--
Rock Island	49	11	30
So. Pac.	22	53	42
Union Pac.	64	71	66
Wabash	8	7	11
C. & N. W.	55	55	54

* Mr. John Moody, Analysis of Railroad Securities.

BUYING CORPORATION BONDS

Mr. Chamberlain says regarding corporation bonds,

"Students can buy municipal or railroad bonds but it takes business men to buy corporation bonds". There is great significance in that statement, for, as Mr. Ferriss states in an earlier chapter, "the entire buying of---- railroad bonds and big issues--of corporation bonds is done by ten or twelve men", and thus it would seem that the science of bond buying, especially corporation bonds, has but few masters. In municipal and railroad issues there exists a well defined class of cities and railroads whose bonds are accepted as safe without question. For as mentioned before, a large part of the debts of cities and railroads is intended to be institutional and continuous, but in the general corporation field the conditions are entirely different.

It is harder to ascertain the true state of affairs of corporations than of railroads or municipalities. Secret liabilities and inflated assets are hard to detect. A corporation that is apparently secure to-day may be floundering in bankruptcy tomorrow due to sudden revelations in the accounts. The recent McCrum-Howell disaster is a good example of this point. January 1, 1912 its accounts showed a large surplus and every one pronounced its stock a good investment. The preferred stock was selling close to par and the common well toward 65, when startling discoveries were made in the accounts. It was ascertained almost certainly that the large surplus shown on January 1, 1912 was fictitious, that there was very little of value to support the stocks, and as a result, the stock tumbled at once, preferred to 14 and common to 3½, causing large losses to the stockholders and to the underwriters. The investment bankers who handled the issue were stunned, for they relied on the audit of accounts and induced their clients to buy freely.

BUYING CORPORATION BONDS

In buying corporation bonds, individual ingenuity is given more opportunity to show itself and the shrewdest tradesman will reap the largest profits.

The prime and most important factor in judging corporation loans is security. It is the hardest point on which to pass judgment and one upon which the success of the issue depends, so that the bon buyer who learns to judge accurately makes his services indispensable to the bond house. It is a quality that is born in men, Mr. Babson says in his lessons on bond buying. A prominent bond man in Chicago recently remarked ^{as quoted before,} that the corporation bonds for the entire U.S. were bought by ten or twelve men. This shows how uncertain a proposition the bond man faces, and while statistics and other scientific methods have done much to enable more men to judge securities for themselves, it is such a fine science that few men ever really become proficient.

The bond buyer must know the kind of business the corporation is engaged in, to buy intelligently. His ability to judge present strength and future prospects will rest largely upon his knowledge of the economics of that particular business. For instance, telephone bonds. The point of physical efficiency and local prospective earnings is one easily determined, but the broader outlook may perhaps be one which requires more scrutiny. Future concentration of the business may be a factor which might eventually crush the local stronghold to small proportions. It is precisely so in the telephone industry. A huge long distance company may invade the field and through their forces and strength may be able to buy out the local plant at ^{gh} their own figures, or they might reduce the value of the local business by competition. Hence a local situation which might seem to be perfectly secure must be considered with respect to the future

BUYING CORPORATION BONDS

development of the business.

The progressive bond houses have advanced their statistical studies to a fineness, where for example, they know the per capita relation between the debt of a company and the size of the community. These facilities are invaluable to the bond house but do not begin to eliminate the risk element in any purchase. After the facts brought out by the engineer, the accountant and the statistician have been condensed and weighed both individually and relatively, it still remains for some expert to pass upon the figures presented and decide for or against the issue.

If the ten or twelve men above referred to as composing the entire number of competent buyers in the United States have worked out statistical computations for themselves, they are very secretive about it, and the dependence they put upon that means of determination is not publicly known.

A gas company presents another type of problem with a host of factors which, while not affecting the immediate condition of the industry, may ultimately displace the investment in plant. They are; namely, possibilities of discovery of natural gas which may be piped for long distances, possibilities of electrical progress displacing gas for heat as well as for illuminating, dangers of rate reduction, etc. The banker would desire to know if growth in per capita use was compensating the company for any rate reductions.

Mr. Babson says, "----A good buyer must have to a certain extent that sixth sense which enables one to forecast future conditions".

H.W.Halsey & Co. has a very thorough and exhaustive method of investigating securities, and the same is reproduced in the appendix herewith. It is taken from their publication entitled, "The Most Satisfactory Bonds".

CONCLUSION

The principles involved in purchasing bond issues may be summed up as follows:

First, the principal must be secure, which means that the issuing corporation must possess property in excess of its obligation, and that it must be able to repay the loan at maturity.

Second, the corporation must be able to meet its interest payments as they fall due, which means that the corporation must be earning from two to three times the amount of its fixed charges.

Third, the issue must be marketable and convertible, which means that the corporation must be well and popularly known. To enjoy popularity the corporation must be known to be carrying on its business conservatively, so that it is paving the way to future safety.

Fourth, the officials must bear good reputations for ability as well as for character; for in order to keep pace with other institutions they must be known to be taking advantage of every real economy, labor saving device, and invention.

Fifth, its accounts must be known to be up to date, and so kept that the bond buyer may satisfy himself that they represent the true financial condition of the company.

Sixth, the bond must be so constructed that it will sell readily now and also maintain its price in the future.

The problem of the bond purchaser resolves itself into almost definite form. On one hand he has the selling price, which is reducible to a certainty by comparison with similar issues in the active market; on the other hand he has the variable

factors of corporation strength, and he must determine by precedent of comparison and relation whether he is justified in pronouncing that corporation sufficiently worthy of the credit of his bond house.

AppendixSPRAGUE'S VALUATION METHOD

Professor Charles E. Sprague's methods of valuing bonds is presented below as an item of interest. The methods are useful to the investor who is computing comparative returns from a number of different bonds, because he faces a definite, tangible proposition. He is offered a bond at a certain price and with a definite rate of interest. By the use of the tables he may determine whether his net interest return is as great as it should be, compared with market interest, or compared with other bonds that are offered to him. The bond buyer, however, is judging of the security behind the bonds as his paramount problem, and the tables are only useful to him in computing a competitive selling price or something of similar nature.

His work begins where the individual's work stops. The banker finds, for example, that a 5% public utility bond at 97 will yield market interest and satisfy the investor, it is his problem to begin with 97 and deduct his profit and then determine whether the borrowing corporation has ample security for the amount of bonds that they desire to issue.

Professor Sprague says, Bonds very frequently are bought at a different price from par. This has its effect on the income derived from the investment. The amount invested being greater, the percentage of fixed income is less; besides this, the excess or premium will not be repaid at maturity, but will be sacrificed; hence, a bond purchased above par earns less than the contractual interest.

Similarly, if the purchase is below par the percentage of fixed income is greater; besides, at maturity the owner will receive not only all that he invested, but also the discount bringing it up to par. Hence a bond purchased below par earns more than the contractual interest.

There are thus two rates of interest relatively to par and

the price; a nominal rate, which is so many hundredths of par, and an effective rate, which is so many hundredths of the amount invested and remaining invested. The words, nominal and effective, are as correctly applied in this case as in relation to frequency of conversion; but for the sake of distinction we shall prefer to call them the cash rate and the income rate, and designate them, when desirable, by the symbols c and i respectively, $1 + i$ is the ratio of increase as heretofore. $1 + c$ is not required, as c is not an accumulative rate, but merely an annuity purchased with the bond. The difference of rates is $c - i$ or $i - c$.

"The following are some of the expressions used to denote an investment above or below par: "6% bond to net 5% " "6% bond on 5% basis" "6% bond yielding 5%" "6% bond pays 5%".

In a bond purchased above or below par, we have, therefore, the following elements: the par principal payable after n periods; an annuity of c per cent. of par for n periods; and a ratio of increase, $1 + i$. Given these, there are two distinct methods for finding the value of the entire security, and these must give the same result.

First Method. "Separate Evaluation of Principal and Annuity. Let us suppose a 7% bond, interest semi-annually, 25 years to run (50 periods), for \$1,000. The present value is composed of two parts: (1) the present worth of \$1,000 in a single payment, 50 periods hence; (2) an annuity of \$35 for 50 terms. We can only value these when we know what is the income-rate current upon securities of this grade. Let us assume 3% as the income-rate per period, or what is usually called a 6% basis. The ratio of increase is 1.03.

The first part of the solution is to find the present worth of \$1,000 at 3% in 50 periods. The present worth of \$1 on the same conditions which is .2281071; hence, the value of the \$1,000 is \$228.1071. It will be noticed that this result has not the slightest reference to the 7% rate of the bond. As a matter of compound interest, the 7% does not exist.

We next have to value an annuity of 50 terms at \$35. The value of a similar annuity of \$1. is worth \$25.72976. If each term be \$35, the value will be \$900.5417. Adding this to the value of the \$1000, we have the value of the bond, 228.1071 plus 900.5417, equals \$1128.6488. The ordinary tables, which have values of a \$100 bond only, read 112.86, which is the same, rounded off. The above computation gives a result which is correct to the nearest cent on \$100,000, viz., \$112,864.88.

Second Method. "Division of Income and Evaluation of Premium and Discount. Each semi-annual payment of \$35 may be divided into two parts: \$30 and \$5. The \$30 is the 3% income on the \$1,000; we may disregard this and consider only the \$5, which is surplus interest, and, in fact, is an annuity which must be paid for in a premium. Having devoted \$30 to the payment of our expected income-rate on par, we have \$5, the difference of rates per period, as a benefit to be valued.

We have found the present value of an annuity of \$1.00 to be 25.72976. Multiplying this by 5 to get the present worth of a \$5 annuity, we have 128.6488, which is the premium, agreeing with the result of the previous method. The second method is not only quicker, but it often gives one more place of decimals.

In the case of a bond sold below par, the cash-rate being less than the income rate, the same procedure is followed for finding the present worth of \$5, but the result, \$128.6488, is subtracted from the par, giving \$871.3512, as the value of a 5% bond earning 6% per annum.

As this second method is superior to the first, we will adopt it as the standard.

Rule. "The premium or discount on a bond for \$1.00 bought above or below par, is the present worth of an annuity of the difference of rates."

We have found the value of a 7% bond for \$1000 paying 6% (semi-annual) 25 years to run, to be \$1128.65, which is \$33.86. But he actually collects \$35, and after using \$33.86 as revenue, he must apply the remainder, \$1.14, to the amortisation of the premium. This will leave the value of the bond at the same income-rate, \$1127.51. If our operations have been correct, the value of a 7% bond to net 6%, 24½ years or 49 periods to run, will be \$1127.51. To test this, and to exemplify the method, we will go through the entire operation:

The logarithm of 1.03 is	.01283722
This times 49 equals	.6290238
This subtracted from 0 equals	1.3709762
We find the log. of .23495 is	1.3709754
Remainder	<u>8</u>

Which gives the figures 02.

Hence, .23490502 is the present value of \$1.00 at 3% per period for 49 periods. Subtracting the .2349502 from 1, we have, .7650498, which is the present value of an annuity of .03 for 49 periods. Dividing by .03 we have the present value of an annuity of \$1.00 per period, viz., 25.50166. But the surplus interest is \$5; hence, we must multiply 25.50166 by 5, giving \$127.51, as the premium, at

APPENDIX-SPRAGUE'S VALUATION METHOD

49 periods. Adding this to the 1,000 we have \$1127.51, the same result as found above.

When bonds are purchased as investment, a Schedule of Amortization should be constructed, showing the gradual extinction of the premium by the application of surplus interest. The following is the form recommended, but it should be continued to the date of maturity, and at intervals corrected in the last figure by a fresh logarithmic computation.

Schedule of Amortisation.

7% bond of the _____, payable Jan. 1, 1954, Net 6% J&J.

Date	Total Interest 7%	Net Income 8%	Amortisation	Book Value
1904 Jan.1	Cost-----			\$1128.65
July 1	\$35.00	\$33.86	\$1.14	1127.51
1905 Jan. 1	35.00	33.83	1.17	1126.34
July 1	35.00	33.79	1.21	1125.13
		etc., etc., etc.		

(Book Value might be termed Investment Value)

This schedule is the source of the entry to be made each half year for the "writing off" or "writing up" of the premium or discount, so that at maturity the bond will stand exactly at par. We give two more examples continuing them to maturity, one being above par and the other below par. As the formation of schedules is the basis of the accountancy of amortised securities, we shall present the same materials in various forms, lettering them (A), (B), etc.

APPENDIX-SPRAGUE'S VALUATION METHOD

Schedule of Amortisation (A).

5% bond of the _____, payable May, 1, 1909. MN.

Date	Total 5%	Interest	Net 4%	Income	Amortisation	Book Value	Par
1904 May 1				Cost	104,491.29	100,000	
Nov 1	2,500		2,089.83	410.17	104,081.12		
1905 May 1	2,500		2,081.62	418.38	103,662.74		
Nov.1	2,500		2,073.26	426.74	103,236.		
1906 May 1	2,500		2,064.72	435.28	102,800.72		
Nov.1	2,500		2,056.01	443.99	102,356.73		
1907 May 1	2,500		2,047.13	452.87	101,903.86		
Nov.1	2,500		2,039.08	461.92	101,441.94		
1908 May 1	2,500		2,028.84	471.16	100,970.78		
Nov.1	2,500		2,019.42	480.58	100,490.20		
1909 May 1	2,500		2,009.80	490.20	100,000.00		
	<u>25,000</u>		<u>20,508.71</u>	<u>4,491.29</u>			

Schedule of Accumulation (B).

3% Bond of the _____, payable May 1, 1909. MN.

Date	Total	Interest	3% Net	Income	4% Accumulation	Book Value
1904 May 1				Cost	95,508.71	
Nov.1	1,500		1,910.17	410.17	95,918.88	
1905 May 1	1,500		1,918.38	418.38	96,337.26	
Nov.1	1,500		1,926.74	426.74	96,764.00	
1906 May 1	1,500		1,935.28	435.28	97,199.28	
Nov.1	1,500		1,945.99	443.99	97,645.27	
1907 May 1	1,500		1,952.87	452.87	98,096.24	
Nov.1	1,500		1,961.92	461.92	98,558.06	
1908 May 1	1,500		1,971.16	471.16	99,029.22	
Nov.1	1,500		1,980.58	480.58	99,509.80	
1909 May 1	1,500		1,990.20	490.20	100,000.00	
	<u>15,000</u>		<u>19,491.29</u>	<u>4,491.29</u>		

It will be observed in these two schedules, A and B, that the one is exactly as much above par as the other is below it, and that the accumulation and amortisation are exactly the same in both, being added in one case and subtracted in the other. In one line the net income is apparently in error 1 cent, but this is on account of the

roundings of the fractions of a cent, and would disappear if the operation were carried to one place further.

The figures in the column "Book Value" might be taken from the tables of bond values, published in book form. The column of amortisation would, in this case, be derived from the Book Values, and the Net Income from the Amortisation. The schedule would then be roughly accurate, unless the table used were carried to a greater number of places than is usually done. Sprague's Bond Tables will give eight places instead of four, and from them schedules (A) and (b) the entire interest is accounted for, both the interest on the par and that on the premium. We may easily construct the schedule so as to eliminate the par and its interest at the rate of 1-i, and deal only with the surplus interest or the deficient interest, according to the theory stated above. As this may be preferable for some forms of accounts, we again work out the schedule for "5% bond net 4%, 5 years, semi-annual."

Date	Surplus Interest 1%	Interest on Premium 4%	Amortisation	Premium
1904 May 1				4,491.29
Nov.1	500	89.23	410.17	4,081.12
1905 May 1	500	81.62	418.58	3,662.74
Nov.1	500	73.26	426.74	3,236.00
1906 May 1	500	64.72	435.38	2,800.72
Nov.1	500	56.01	443.99	2,356.73
1907 May 1	500	47.13	452.87	1,903.86
Nov.1	500	38.08	461.92	1,441.94
1908 May 1	500	28.84	471.16	970.78
Nov.1	500	19.42	480.58	490.20
1909 May 1	500	9.80	490.20	0.00

We have hitherto assumed that the purchase of the bond took place exactly upon an interest date. We must now consider the case

when the initial date differs from the interest date. Let us suppose the purchase to take place on July 1, when one-third of the period has elapsed. The business custom is to adjust the matter as follows: The buyer pays to the seller the (simple) interest accrued for the two months, acquiring thereby the full interest rights, which will fall due on November 1, and the premium is also considered as vanishing by an equal portion each day, so that one-third of the half-yearly amortisation takes place by July 1. The amortisation from May 1 to November 1 being \$410.17, that from May 1 to July 1 must be \$136.72 and the book value on July 1 is \$104,354.57, which accrued interest, \$833.53- in all \$105,187.90. This last number is the flat price, that is to say, it is inclusive of interest. It might have been obtained in the following manner:

To the value on May 1	\$104,491.29
Add simple interest, 2 mos., 4 $\frac{1}{2}$	<u>696.61</u>
Giving the flat price	\$105,187.90

In buying bonds, there is usually a stipulation that the price should be so many per cent. "and interest," otherwise the price named is understood to be "flat".

This practice of adjusting the price at intermediate dates by simple interest is conventionally correct, but is scientifically inaccurate, and always works a slight injustice to the buyer. The seller is having his interest compounded at the end of two months instead of six months, and receives a benefit therefrom, at the expense of the buyer. It will readily be seen that the buyer does not net the effective rate of 4 $\frac{1}{2}$ semi-annually on his investment of \$105,187.90. The true price would be \$105,183.31, giving

both buyer and seller, not 4% nominal, but the equivalent effective with bi-monthly and four-monthly conversion. In practice, however, for any time above six months, simple interest is generally used, to the slight disadvantage of the buyer, who may claim, and probably legally, that the November value and interest due should have been discounted at 4%; 106,581.12 divided by 1.91 1/3 equals 105,178.74; which is almost exactly as much too low as the 105,187.90 is too high.

Mr. Lawrence Chamberlain presents a method very similar to the one given above, in his book entitled "The Principles of Bond Investment". It likewise is of more value to the individual investor than to a bond purchaser.

N.W.HALSEY & CO. METHOD

Before offering an issue of corporation bonds to the public the banker undertakes a most thorough and expert investigation of every phase of the situation affecting the security of the bonds. When the owners of a corporation, on which they wish to place a bond issue, first submit the matter to a banking firm, they are requested to submit full and complete - - - - -

data regarding the company. This is subjected to a careful office analysis by the firm's experts. If the investigation discloses any material weakness in the proposed security the matter is not pursued further. If the office analysis is favorable, however, the more formal examination is undertaken.

Attention is then directed to the community served. Only communities of substantial size are considered, which while giving evidence of stability, at the same time indicate a spirit of progress and development. Just as character is important in the individual, so it is in the community, and through long experience the investment broker gains the ability to differentiate between the substantial and the unsubstantial; between the progressive and the unprogressive in communities.

Engineer's Examination.

Perhaps the most important part of the investigation of a corporation issue is the examination made by the engineer. The banker uses particular care in the selection of the engineer. Only an expert, qualified by long familiarity with corporations similar to the one under investigation, who has demonstrated by prior undertakings that he is a man of ability and thoroughness, is accepted. Usually he is a representative of a well known engineering firm whose experts carry weight because they are known to be dependable.

The engineer's investigation is most exhaustive. Every fact which may have a bearing upon the future success of the company, and thus on the security of its bonds, is subjected to examination.

The condition of the property is carefully noted. If the plant has not been well maintained or if its equipment is obsolete or

in poor operating efficiency, the report will so indicate and as a result the banker will probably refuse to handle the issue.

The character and ability of the company's management is given careful consideration. In this connection the attitude of the public - the customers of the corporation - is determined and is given due weight.

If the rates charged by the corporation to its customers are too high in comparison with those charged by other corporations operating under similar conditions, the bonded debt is limited to an amount upon which the fixed charges will be safely earned even though rates be materially lowered.

The company's relations with its employees are likewise considered. If the company is paying lower wages than corporations similarly situated, note is made of the fact and the bankers will not accept the issue unless the earnings, even in the event of a rise in operating expenses due to higher cost of labor, will show a safe margin above interest charges.

The engineer makes a careful appraisal of the actual physical value of the corporation's property. One of the basic factors in determining the safety of corporation bonds is the replacement value of the property by a mortgage on which the bonds are secured. The appraisal, which is made with the minutest care, and which requires ability of a high order, eliminates the consideration of franchises and good will, although these may be of great value. The banker will not accept the bond issue if it does not bear a proper relation to the physical property upon which it is secured, nor unless the interest will be surely earned under any regulation

of rates the enforcement of which will be allowed by the courts.

The engineer delves into every phase of the business of the company. He particularly concerns himself with its stability, its permanency and its chances of growth. This part of the investigation includes an examination of the character of the community served. The engineer gives his own impressions of the territory in which the company operates and thus supplements the banker's personal knowledge and judgement regarding the future development of the community where the corporation is located.

The Audit.

Only secondary in importance to the engineer's examination is an audit of the books of the corporation by the accountant. Only an expert who is familiar with corporation accounting is qualified for this undertaking. A man who can merely add and subtract figures will not do. The banker selects an expert who can use his head as well as his pencil.

The auditor takes up his investigation somewhat in the frame of mind of a detective. He is on the lookout for something covered up. Oftentimes he will find an amount charged to cost of construction which ought to be charged to cost of operation, thus making the net earnings of the corporation appear larger than they really are.

The accounts are not only verified, but they are analyzed. If, for example, the corporation operates a street railway, the gross earnings per car mile, per car hour, per mile of track, etc. are calculated. The various items that make up the operating expenses are subdivided in the same way. If any of the items such as cost of maintenance, cost of power, or the like, are abnormally high

or abnormally low, or unusual in any respect, the peculiarity is given especial attention. A careful analysis throws a good deal of light upon the operating efficiency of the management. The audit and the analysis are, of course, of great assistance to the engineer.

Equity.

One of the prime factors given consideration by the bankers in reaching a conclusion as to the safety of a corporation is the equity in the property above the bonded debt. The equity is the amount by which the value of the property exceeds the amount of the bonded indebtedness. It is known as "The Margin of Safety".

The corporation bondholder is a secured creditor. The owners of the corporation pledge their entire property as security for a loan limited to an amount which equals only a part of the value of the property pledged. The banker takes particular care to assure himself that the bond issue bears a proper relation to the value of the property by which it is secured; in other words, to assure himself that there is a sufficient equity behind the bonds.

In determining the amount of security back of a corporation bond issue a number of factors are given consideration. Among others may be mentioned:

- (1) The cost of the property;
- (2) The replacement value of the physical property;
- (3) The aggregate market value of the corporation's securities;
- (4) The character of its business.

Cost of the Property.

The cost of the property may refer to the cost of its construction, or, if the corporation has recently changed hands, refer-

ence may be made to the cost of acquisition by the new owners. In neither case is the cost taken by the banker as an index of the exact value of the property. The cost of construction may, on account of extravagance or poor engineering, have been unnecessarily high. The cost of acquisition may have been at an unwarranted price. But, if in the latter case, the new owners are shrewd and practical operators, the fact that they paid a high price has a certain significance. It indicates that they believe the property has a bright future and that they were willing to venture a relatively large sum that their expectations would be realized. In such a case the bond issue bears a low ratio to the cost of the property, that is, to the purchase price.

Sometimes the cost of construction, although the work may have been well and economically done, is much larger than the amount for which the corporation may be safely bonded. An interurban road may have been built through a rather sparsely settled territory; its earnings may not be sufficient to yield more than a moderate return on its cost, yet the country may be developing and the prospects of the road very favorable. In such an instance the banker would probably limit the bond issue to one-half or two-thirds of the cost of the property and in that event the bonds would be perfectly safe.

The large equity in the property above the bonded debt in such a case offers in a sense a special protection to the bondholder. The owners have pledged property having a comparatively large cost value as security for a relatively small loan. They will bend every effort to develop their property successfully in order to avoid the possibility of any default which might result in their losing all they had spent on the property through a foreclosure sale to

protect the bondholders.

Replacement Value.

The replacement value is only a part of the entire valuation of a corporation's property. THE situation, the business of the company, the franchises, etc., have a very substantial, although perhaps intangible value; but the bond issue is usually restricted to an amount within the replacement value; this is, within the amount which it would cost to duplicate the physical property of the company. THE replacement value may, of course, be much too large to form a safe basis for the bonded debt. An electric company may have an hydro-electric development which has a high replacement value. If, however, the water supply is constant or deficient, the real value may be much less than the amount spent on its development and installation. On the other hand, a well located and well developed water power having a sure and steady supply of water may have a real value much in excess of the amount it would cost to duplicate its construction. So, the banker, while taking the replacement value into consideration, does not rely upon it alone in reaching a conclusion as to the amount to which the bonded debt should be limited.

Market Value of the Corporation's Securities.

Where all the securities of the company have an active market it is possible, by taking the aggregate values of the outstanding stocks and bonds, to obtain the combined judgment of a great many people as the value of the corporation's property and business. In such an instance the equity is measured by the market value of the securities junior or subordinate to the bonds. The banker, however, does not accept the market's judgment of the value of this

equity. While giving the matter due weight, he conducts an independent examination in order to determine the equity from other points of view.

In considering the adequacy of the equity behind the bonds the banker looks carefully into the character of the corporation's business. The conservative banker handles only the securities of those corporations only which are firmly entrenched in a progressive community, and which have a growing business. The corporation must not only have able management but it must have back of it men of character and means who will be able to protect the company if it suffers temporarily from labor or other difficulties. The banker satisfies himself not only that the equity back of the bonds is adequate at the time of their issuance, but that there is every reason to believe that the equity will increase with the natural development of the company in the succeeding years.

Expert Legal Assistance.

In connection with the issuance of corporation bonds, there is a large amount of legal work to be done and the banker calls to his assistance expert counsel of the highest rank. He employs specialists in corporation law who stand at the head of their profession.

The lawyers first examine the franchises in order to assure themselves that they are valid and sufficiently plenary. If the franchises are legally satisfactory they are referred to the engineer who determines whether or not they are free from burdensome restrictions which might hamper the development of the company.

The lawyer's principal work is in connection with the preparation and authorization of the mortgage by which the bonds are to be secured. Corporation mortgages are usually rather lengthy and to the lay mind rather forbidding documents, but the length —

of the instrument is due in a large measure to the insertion of innumerable provisions for the protection of the bondholder. The counsel for the banker not only draws the instrument but superintends the formalities which attend the authorization by the stockholders and directors of the corporation in order that there may be no question as to the legal and binding force of the bonds when they reach the investors' hands.

Escrow provisions

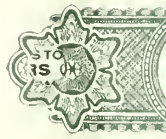
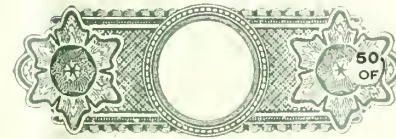
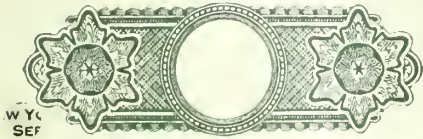
In the so-called escrow provisions of the trust deed are set forth the conditions under which the additional bonds may be issued. In the first place, it is almost invariably provided that the expenditure for new property or for extensions shall be considerably in excess of the face value of the bonds which may be issued on account of such expenditure. For example, if a gas company spends \$ 100,000 for new mains a standard mortgage would provide that it may increase its bond issue by but \$ 85,000. In this way the equity above the bonded debt will be maintained. In many mortgages the issuance of additional bonds is prohibited unless the earnings of the company bear a specified ratio to its fixed charges. The usual provision is to the effect that no additional bonds shall be certified by the Trustee unless the net earnings of the company for the period of a year preceding the date on which the request for the certification of the bonds is made shall have been at least once and a half or twice the interest charges on all bonds outstanding including those proposed to be issued.

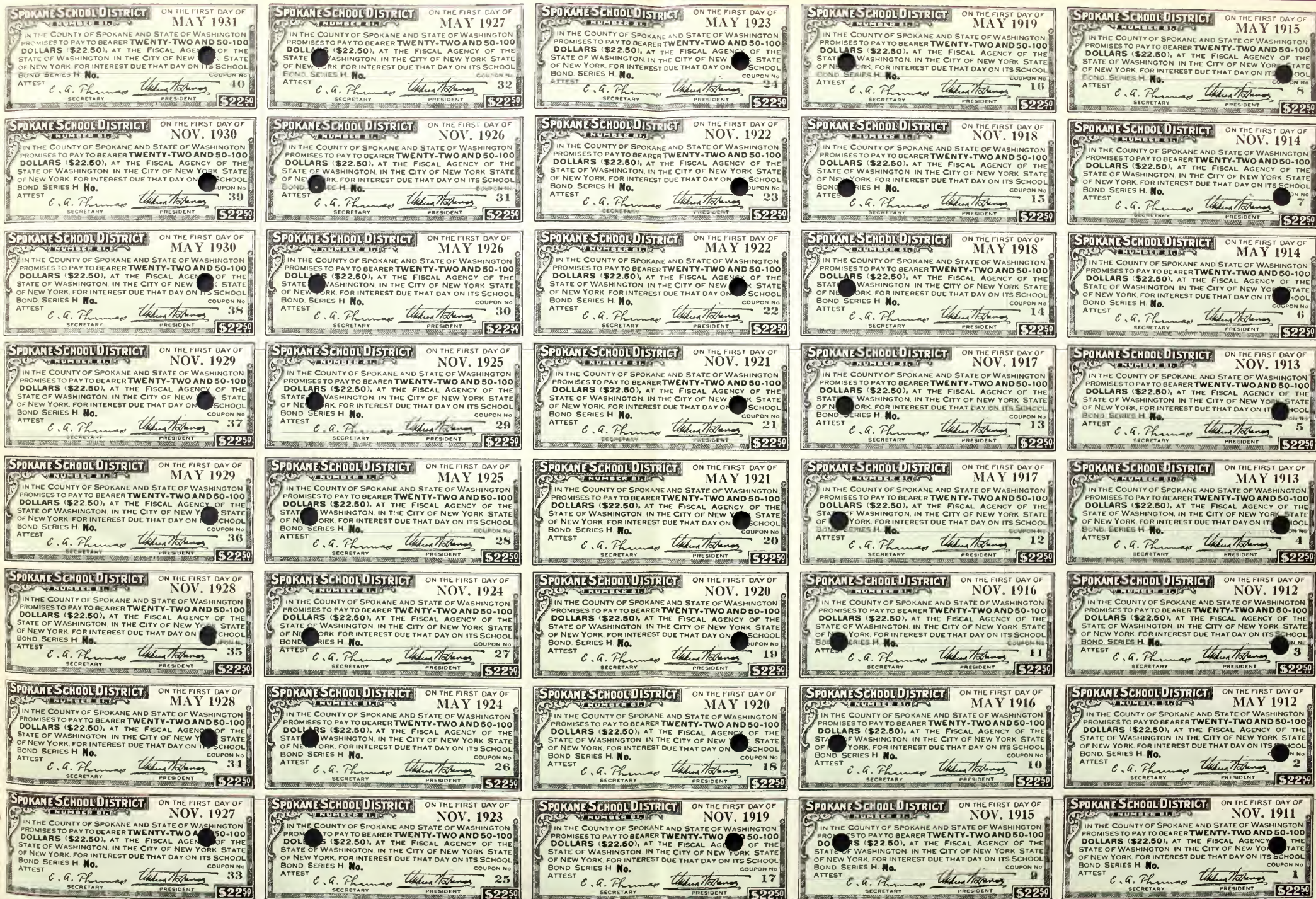
Such a provision precludes the possibility of a too rapid increase in the bonded debt of the company but it does more than that. It prevents the company from issuing more bonds than an amount on which it can safely pay the interest charges. Assume, for example,

that an electric lighting company wishes to install an additional generating unit at the cost of \$ 100,000. It may not issue bonds even to 85 % of the cost of the generator unless the net earnings for the year previous have shown a substantial margin above the amount necessary to pay its bond interest, including in that amount a sum equal to the interest on the \$ 85,000 of bonds which it desires to issue on account of the new unit. If the company is able to comply with the provision and the bonds are issued the margin of earnings above interest charges will, in all probability, materially increase —in the succeeding year when the benefits are derived from the new generator. As a consequence the bond issue will be by so much the better secured.

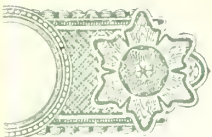
The mortgage sets forth in great detail the certificates which the company must furnish the Trustee before it can issue additional bonds. The company must set forth the particulars of the improvements on account of which the certification of the bonds is requested; the itemized cost must be given and the engineer of the company must make affidavit that the cost is not above the fair value. A resolution of the Board of Directors of the company must be passed authorizing the expenditure and authorizing the issuance of the bonds. An increase of the bonded debt cannot occur by reason of the hasty or ill-advised action of one or more of the officers of the company and over-capitalization as a result of the issuance of too many bonds under the mortgage is virtually impossible.

APPENDIX - CANCELLED BONDS - TRUST DEEDS
ETC









TREASURER'S CERTIFICATE

I, Z. Stewart, Treasurer of Spokane County, Washington, hereby certify that this Bond
is No. _____ of Series _____, belonging to a series of five hundred
(500) bonds of One Thousand Dollars (\$1,000) each, dated May 1, 1911, and issued on
_____ to _____ or bearer, by
Spokane School District No. 81, of Spokane County, Washington.
Dated at Spokane, Washington, _____ 1911

Treasurer of Spokane County, Washington.

1000

State of Washington
County of Spokane

SPOKANE SCHOOL DISTRICT BOND

SERIES H

Know all Men by these Presents, That Spokane School District Number 81, in the County of Spokane and State of Washington, is justly indebted to, and, for value received, promises to pay to bearer the sum of

ONE THOUSAND DOLLARS

(\$1,000), on the First Day of May, 1931, with interest thereon at the rate of Four and One-Half ($4\frac{1}{2}$) Per Centum Per Annum, payable semi-annually on the First Day of May and November in each year on presentation and surrender of the interest coupons hereto annexed as they respectively mature; both principal and interest are payable in gold coin of the United States of America, at the Fiscal Agency of the State of Washington, in the City of New York, State of New York.

This Bond is one of a series of five hundred bonds of like tenor and date, known and designated as Series H, amounting, in the aggregate, to the sum of Five Hundred Thousand Dollars (\$500,000), and issued by the Board of Directors of said School District under and in accordance with the provisions of an Act of the Legislature of the State of Washington known and cited as the "Code of Public Instruction of the State of Washington," approved March 11, 1909, as amended, and of an election duly called and held in said School District on the eighteenth day of February, 1911.

It is Hereby Certified, Recited and Declared, that all acts, conditions and things required to be done and performed precedent to and in the issuing of this series of bonds have been done, have happened and have been performed in regular and due form as required by law; that the total indebtedness of this District, including this Bond, does not exceed the statutory or constitutional limitations, and that for the prompt payment of both principal and interest hereof, the faith, credit and property of said School District is hereby irrevocably pledged.

In Witness Whereof, the said School District, by its Board of Directors, has caused this Bond to be sealed with its corporate seal and signed by its President and attested by the Secretary of said District, and has caused the annexed interest coupons to be executed by the fac-simile signatures of said officers, this first day of May, 1911.

Attest:

Secretary.

President.



I, Z. Stewart, Treasurer of Spokane County, Washington, hereby certify that this Bond is No. _____ of Series _____ belonging to a series of five hundred (500) bonds of One Thousand Dollars (\$1,000) each, dated May 1, 1911, and issued on _____ to _____ or bearer, by Spokane School District No. 81, of Spokane County, Washington.
Dated at Spokane, Washington, _____ 1911.

Treasurer of Spokane County, Washington.

**SPOKANE
SCHOOL DISTRICT
BOND**

SERIES H

1000

Dated May 1, 1911
Due May 1, 1931

Interest 4½% Per Annum
Payable Semi-annually, on
Nov. 1 and May 1

Both Principal and Interest
Payable at the

WASHINGTON FISCAL AGENCY
NEW YORK, N. Y.



State of Washington
County of Spokane

**SPOKANE
SCHOOL DISTRICT
BOND**

SERIES H

1000

Dated May 1, 1911
Due May 1, 1931



Interest 4½% Per Annum
Payable Semi-annually, on
Nov. 1 and May 1



Both Principal and Interest
Payable at the

WASHINGTON FISCAL AGENCY
NEW YORK, N. Y.



Entry of Units Securing Within Bond

Total Annual Income of Units Securing Within Bond

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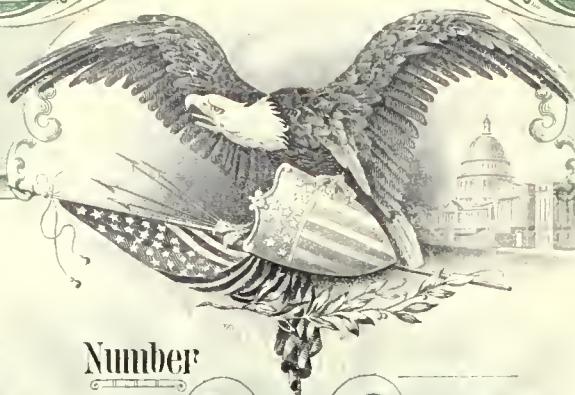
by,

Trustee

United States of America

1000

1000



Number

The Trustee Securities Company

First Lien Bond

upon

Units of Business Property

The Trustee Securities Company, for Value Received, promises to pay to the registered holder hereof, at its office in New York City, five years from date hereof

One Thousand Dollars

in United States gold coin with interest at the rate of five per cent per annum, payable quarterly upon presentation and surrender of the attached interest coupons as the same fall due.

This Bond is a First Lien on the Units of Business Property entered on the back hereof, which we hereby certify have the cash value and net income return specified in the said entry, and which have been duly assigned to the Trustee, receipting therefor on the back hereof, in trust as security for payment of both principal and interest of this Bond.

The amount of this Bond, at par and interest then accrued hereon, may at any time, prior to one year from the date hereof, be applied by the registered holder hereof toward payment for any of the Units held in trust therefor at the current cash value at the date of issue hereof as entered hereon.

The Company will, upon request of the registered holder hereof and surrender of the coupons attached, retain the interest amounts accruing hereon as they fall due and in lieu thereof pay to the holder at maturity interest hereon at the rate of five per cent per annum compounded semi-annually.

The Company reserves the right to redeem this Bond at any time after one year from date hereof by paying to the registered holder par and a premium of two per cent plus the interest accrued to the date of such redemption.

This Bond shall be registered in the name of the holder by notation hereon and entry in the books of The Trustee Securities Company at New York City. The attached coupons shall always be payable to bearer, provided that if at any time the unmatured coupons are surrendered to The Trustee Securities Company for registration and cancellation, the interest thereafter accruing hereon shall be payable to the registered holder.

In Witness Whereof, The Trustee Securities Company has caused these presents to be signed in its corporate name, by its President or Vice-President, and its corporate seal to be hereunto affixed and attested by its Secretary or Assistant Secretary, and has also caused a facsimile of the signature of its Treasurer to be engraved on each of the coupons hereto attached.

Dated this _____ *day of* _____ 19__

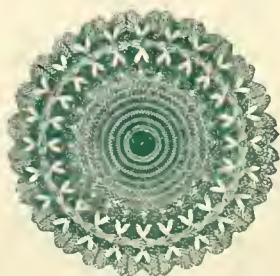
The Trustee Securities Company

By

President

Attest

Secretary



We hereby certify that the coupons herof from

The Trustee Securities Company

Coupon Surrender

Interest to be compounded and paid at maturity

We hereby certify that the coupons heretofore from No. _____ maturing _____ 19____ up to No. _____ maturing _____ 19____ both inclusive, have been surrendered and cancelled this _____ day of _____ 19____ and that the interest represented by such coupons compounded semi-annually will be payable at the maturity of the within bond as therein specified.

The Trustee Securities Company

Coupon Surrender

Interest to be compounded and paid at maturity

We hereby certify that the coupons hereof from

No. _____ maturing _____ 19____

up to No. _____ maturing _____ 19____

both inclusive, have been surrendered and canceled this _____ day of _____ 19____, and that the interest represented by such coupons compounded semi-annually will be payable at the maturity of the within bond as therein specified.

The Trustee Securities Company

First Lien Bond

1000

on Units of Business Property

Interest Payable

March 10th	June 10th
Sept. 10th	Dec. 10th

at office of

The Trustee Securities Company
New York City

The Brown-Green Co. 48 John St. N.Y. 6

Registered Holder

Registration

No writing on this Bond except by an officer of the Company

Registered Address

Signature of Registry Agent

Date of Entry

Property

Number of Units

Cash Value
per Unit

Total Value

Net Income
per Unit

Total
Income

Signature as to Entry

Total Value of Units Securing Within Bond

Total Annual Income of Units Securing Within Bond

This is to certify that the Units of Business Property entered above have been received and are held in trust as specified in the within Bond by,

Trustee

NUMBER

The Trustee Securities Company

First Lien Bond

1000

on Units of Business Property

Interest Payable

March 10th	June 10th
Sept. 10th	Dec. 10th

at office of

The Trustee Securities Company
New York City

Coupon Registration

We hereby certify that the coupons hereof from

No. _____ maturing _____ 19____

up to No. _____, maturing _____ 19____,

both inclusive, have been surrendered and cancelled this _____

day of _____, 19____, and that the interest

represented by such coupons will hereafter be payable quarterly as

they mature to the then registered holder of this bond.

The Trustee Securities Company

By _____ its _____

Coupon Surrender

Interest to be compounded and paid at maturity

We hereby certify that the coupons hereof from

No. _____ maturing _____ 19____

up to No. _____, maturing _____ 19____,

both inclusive, have been surrendered and cancelled this _____

day of _____, 19____, and that the interest

represented by such coupons compounded semi-annually will be

payable at the maturity of the within bond as therein specified.

The Trustee Securities Company

By _____ its _____

Citizens Gas & Electric Company

(WATERLOO AND CEDAR FALLS, IOWA)

Consolidated Mortgage 6% Gold Bonds

Dated February 1, 1911. Due February 1, 1931. Redeemable on any interest date at 101 and interest. Principal and semi-annual interest (February 1st and August 1st) payable at the Central Trust Company of Illinois, Chicago. Denominations, \$500 and \$1,000. Principal may be registered.

CENTRAL TRUST COMPANY OF ILLINOIS, CHICAGO, TRUSTEE

CAPITALIZATION

	Authorized	Outstanding
Common Stock	\$500,000	\$400,000
Preferred Stock	200,000
Total stock outstanding.....		\$400,000

FUNDED DEBT

Consolidated Mortgage 6% Bonds outstanding.....	\$ 700,000	
Reserved to retire \$1,200,000 underlying bonds, less \$29,000 already retired by sinking fund	1,171,000	
Reserved for additions and extensions to property under carefully guarded restrictions of Trust Deed	2,129,000	
Total bonds authorized		\$4,000,000

EARNINGS FOR THE YEAR ENDING MARCH 31, 1911:

Gross earnings	\$364,964.86
Operating expenses and taxes.....	192,778.63
Net earnings	\$172,186.23
Interest on underlying bonds for period.....	58,841.67
	\$113,344.56
Interest on \$700,000 Consolidated Mortgage 6% Bonds lately sold, but not a charge prior to February 1, 1911	42,000.00
SURPLUS EARNINGS	\$ 71,344.56

The CITIZENS GAS & ELECTRIC COMPANY does the entire gas and electric light and power business of Waterloo and Cedar Falls, having a combined population of about 35,000, and operates under the following franchises: Gas and electric franchises, Waterloo, running twenty-five years from January 28, 1901; gas franchise, Cedar Falls, running twenty-five years from March 1, 1905; electric franchise, Cedar Falls, running fifteen years from June 7, 1897.

The earning capacity of this property has been demonstrated and is constantly increasing. Surplus earnings for the year ending March 31, 1911, after providing for the interest on the underlying bonds, are nearly three times the interest requirements on these bonds.

For complete details regarding this issue we refer to the letter of Mr. Rufus C. Dawes, President of the Company.

Copies of the mortgage and legal opinion of Messrs. Pam, Hurd & Day, Chicago, may be seen at our office.

WE RECOMMEND THESE BONDS FOR INVESTMENT

The statements made in this circular are furnished by the Company, and while not guaranteed by us, we believe them to be correct.

Offering is made subject to prior sale and advance in price.

Price on application

WM. S. GILMORE & CO.

(EXTRACT FROM LETTER OF MR. RUFUS C. DAWES, PRESIDENT)

Chicago, May 1, 1911.

The Citizens Gas & Electric Co. owns and operates a gas plant and a modern, up-to-date electrical station in the City of Waterloo, and does the entire gas, electric light and power business in the cities of Waterloo and Cedar Falls, Iowa, serving a population of about 35,000.

The present management took over the property in 1905 and the earnings have shown substantial increases each year as will be seen by the figures below:

EARNINGS FOR YEAR ENDING	Gross Earnings	Operating Expenses	Net Earnings
December 31, 1905.....	\$124,146.08	\$ 59,450.17	\$ 64,695.91
December 31, 1906.....	173,992.98	92,977.43	81,015.55
December 31, 1907.....	228,126.74	121,624.65	106,502.09
December 31, 1908.....	264,929.76	141,897.86	123,031.90
December 31, 1909.....	306,264.89	152,998.78	153,266.71
December 31, 1910.....	349,438.78	185,747.14	163,691.64
March 31, 1911.....	364,964.86	192,778.63	172,186.23

It will be noticed that this growth, while it appears large, is closely related to the increases shown in post office receipts, railroad shipments, manufacturing output and other indices of the advancement of the cities. The gas and electric company has kept pace with this general advance, and may reasonably expect an enlargement of its business from the present population. The fact that there were six hundred houses built last year, and the expectation is that more will be built this year, gives ground for the belief that future earnings will show a large increase as the result of continued growth in population.

The Citizens Gas & Electric Company Consolidated Mortgage 6% Bonds are secured by a lien on all the property rights and franchises now owned or hereafter to be acquired by the Citizens Gas & Electric Company, subject only to the lien of the underlying 5% Bonds, amounting at this time to \$1,171,000, and which lien will be reduced each year by the operation of a sinking fund. There have been deposited with the Trustee a sufficient number of the Consolidated Mortgage Bonds to retire the 5% bonds at maturity, so that these bonds will become an absolute first mortgage in less than fifteen years.

The Company's plant is located in Waterloo, and consists of an electrical station containing two 750 K. W. and one 1,250 K. W. Curtis Turbine Generators, developing over 3,600 electrical horse power. The gas plant which adjoins the electrical station consists of a retort house, containing eleven benches of sixes, a Lowe water gas set, and the necessary plant for sending out 1,500,000 cubic feet of gas per day. The holder capacity consists of one of 500,000 cubic feet, one of 126,000 cubic feet, one of 80,000 cubic feet, and one of 50,000 cubic feet. There are over 95 miles of mains and 395 miles of wire. All the buildings are of brick and steel, and the entire property is modern and up-to-date in every respect, in excellent physical condition.

At the time this Company took over the property there were only 40 miles of mains and 2,131 gas meters connected. At the present time the Company has 95 miles of mains, 7,105 gas meters connected and 6,680 stoves. The consumption of electricity for power purposes has grown from 564 horse power connected load in 1905 to 3,775 horse power, while the connected lighting load has grown from 12,584 equivalent sixteen candle power lamps to 59,040, and the number of electric meters from 925 to 3,285.

Gas is supplied to the City of Cedar Falls by a four-inch high pressure main, and electricity by a high tension transmission line. At Cedar Falls the Company has a small station for the purpose of reducing the pressure of the gas so that it may be sent out to the consumers and for stepping down the high voltage current.

The business of the Company has had a rapid growth, as will be seen from the foregoing, but we have kept up with every demand made upon us and the present plants and equipments are still capable of taking care of a much larger increase in business.

Waterloo, the county seat of Black Hawk County, is located in northeastern Iowa on the Cedar River. The city has had a remarkable but substantial growth as indicated by the population and postal receipts given below:

	1900	1905	1910
Population.....	12,580	18,071	26,697
Post office receipts.....	\$30,684.17	\$58,272.72	\$185,138.40

Three railroad systems—the Chicago Great Western, Illinois Central and Rock Island; and an inter-urban electric line—Waterloo, Cedar Falls & Northern—give unsurpassed transportation facilities.

Waterloo's growth and prominence as a manufacturing center has been even more remarkable. There are at this time about 130 factories employing over 7,000 hands, turning out a manufacturing product of over \$26,000,000 per annum; railroad and industrial pay rolls in Waterloo amount to \$4,000,000 per annum; 73,000 freight cars come in and out of Waterloo a year; there are 41 miles of paved streets, 24 churches, 17 school buildings, three daily newspapers, two hospitals, two public libraries and 13 banks with resources of \$9,000,000.

Practically all the manufacturing plants use electric power supplied by this Company, which they have found to be much cleaner, cheaper and more adaptable to their means. In this matter of power alone Waterloo factories are far ahead of their competitors in many larger cities. There are eight or ten of the manufacturers who maintain a distinct jobbing trade and there are a dozen exclusively jobbing and wholesale houses which transact a constantly growing business and employ 150 traveling men. In addition to these there are some 400 traveling men who make Waterloo their home.

Cedar Falls, seven miles northwest of Waterloo, has a population of about 7,000. It is an important manufacturing point and also the seat of the Iowa State Normal School with 1,200 students. Cedar Falls is the home of numbers of retired farmers, has three banks and a wide awake and energetic commercial club carefully fostering the industrial interests of the city.

In view of the excellent physical condition of the Company's property, the increase in earnings, and the remarkable but steady growth of the territory served, I consider the Consolidated Mortgage 6% Bonds a safe and attractive investment.

Yours very truly,

(Signed) RUFUS C. DAWES,
President.

MOBILE GAS COMPANY

TO

CENTRAL TRUST COMPANY OF
ILLINOIS, Trustee

DEED OF TRUST

Dated January 1, 1910

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This Indenture, dated January 1, 1910, made and entered into between MOBILE GAS COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Alabama, and having its principal office in the City of Mobile, Alabama, party of the first part (hereinafter for convenience termed the "Gas Company"), and CENTRAL TRUST COMPANY OF ILLINOIS, a corporation organized and existing under and by virtue of the laws of the State of Illinois, with its principal office in the City of Chicago, Illinois, party of the second part (hereinafter for convenience termed the "Trustee"), WITNESSETH:

Date of
instrument.
Parties.

THAT, WHEREAS, the Gas Company, pursuant to its charter powers, is possessed of and operating gas works in the City and County of Mobile in the State of Alabama, and is engaged in the business of manufacturing, distributing and selling gas and its by-products and residual products, for light, heat, power and other purposes, and of supplying gas lamps, fixtures and appliances, within the limits of the City and County of Mobile in the State of Alabama, and their respective vicinities; and in and about its business has acquired the properties hereinafter described, and intends to acquire other properties, rights and franchises, from time to time, and to add to, improve, extend, better and develop the property now owned by it, as well as such after acquired property; and,

Nature and
extent of Gas
Company's
business.

WHEREAS, the Gas Company is duly authorized and empowered by its charter to borrow money from time to time for its corporate purposes, and to issue therefor its bonds or other obligations, secured by mortgage or pledge of its franchises and all its properties, real, personal and mixed, for the repayment thereof, and for the purpose of discharging the obligations incurred by it in the acquisition of the hereinafter described properties, and for the purpose of acquiring other

Authority to
issue bonds.

properties, franchises and rights, and improving, adding to, bettering, extending and developing its property, as well that now owned by it as that which it shall hereafter acquire, and for other corporate purposes, the Gas Company has determined to make and issue its coupon bonds to the aggregate amount of \$3,000,000, payable in gold coin of the United States of America of the present standard of weight and fineness, such bonds to be for the sum of one thousand (\$1,000) dollars each (each of which said bonds is to bear a distinctive number or designation), payable on the first day of January, A. D. 1924, and bearing interest at the rate of five per centum per annum from the first day of January, A. D. 1910, payable semi-annually in like gold coin on the first days of January and July, in each year, and,

WHEREAS, the Gas Company, under and pursuant to the power and authority aforesaid, has determined to secure the prompt payment of the principal and interest of all the said bonds by executing and delivering to the Trustee a mortgage or deed of trust, in the terms of this Indenture, conveying the hereinafter described properties; and,

Authority to execute mortgages.

WHEREAS, the issuance of said bonds, and the execution and delivery of said mortgage, have been legally authorized by resolutions adopted by the Board of Directors of the Gas Company, and by all of its stockholders, at meetings duly and regularly called and held, and a mortgage or deed of trust securing said bonds, in the form of this Indenture, was submitted to and unanimously approved by said Board of Directors and stockholders at said meetings, and the President and Secretary of the Gas Company were duly authorized, at said meetings, on behalf of the Gas Company, as its act and deed, and under its corporate seal, to execute, acknowledge and deliver the same to the Trustee; and,

WHEREAS, the form of the coupon bonds, and the coupons to be attached thereto, and of the certificate to be signed by the

Trustee for the authentication of each of said bonds, were at said meetings severally and respectively submitted to and approved by said resolutions of the Board of Directors and of the stockholders of the Gas Company, and are as follows, to-wit:

(Form of Bond.)

No.

\$1,000.00 Form of bond.

UNITED STATES OF AMERICA.

State of Alabama.

MOBILE GAS COMPANY.

First Mortgage Five Per Cent. Gold Bond.

MOBILE GAS COMPANY (hereinafter called the "Company"), for value received, hereby promises to pay, on the first day of January, A. D. 1924 (unless this bond be sooner redeemed, as hereinafter provided), at the office of CENTRAL TRUST COMPANY OF ILLINOIS, in the City of Chicago, Illinois, or at the First National Bank in the City of New York, to bearer, or, if registered, to the registered holder of this bond, One Thousand Dollars (\$1,000.00), in gold coin of the United States, of the present standard of weight and fineness, and to pay interest thereon from January 1, 1910, at the rate of five per centum per annum, such interest to be payable at the office of said Trust Company, or at the First National Bank in the City of New York, in like gold coin, semi-annually, on the first days of January and July in each year, upon presentation and surrender, as they severally mature, of the coupons for such interest hereto annexed. Both the principal and interest of this bond shall be paid without deduction for any tax or taxes which the Company, its successors or assigns, may be required to pay thereon, or deduct or retain therefrom, under any present or future statute or law of the United States, or of any state, county, city, village, township or other municipality or governmental subdivision, the Company hereby agreeing to pay all such taxes.

This bond is one of a duly authorized issue of coupon bonds of the Company, the aggregate amount whereof is limited, so that there shall never at any time be outstanding bonds of said issue for an aggregate principal sum exceeding three million dollars (\$3,000,000); all of which bonds have been issued, or are to be issued, under and in pursuance of, and are secured by, and are subject to, an Indenture of Mortgage or Deed of Trust, bearing even date with this bond, duly executed by the Company to CENTRAL TRUST COMPANY OF ILLINOIS, as Trustee, under which Indenture all of the property and franchises of the Company, now owned or hereafter to be acquired, have been transferred and mortgaged to said Trustee, and hereby reference is made to said Indenture, and the same made a part hereof, with the same effect as if herein fully set forth. Of said bonds five hundred and fifty thousand dollars (\$550,000.00), par value thereof, are to be issued forthwith, and the remaining two million four hundred and fifty thousand dollars (\$2,450,000), par value thereof, are to be issued from time to time, in the manner provided in said Indenture, to a principal amount not exceeding eighty per cent. of the actual cost of additional properties, franchises and rights hereafter acquired by the Company, or of additions, improvements and betterments to and extensions of the mortgaged property, and under certain other conditions more fully described in said Indenture. In case of default in the payment of any installment of interest due on this bond, and the continuance thereof for a period of three (3) months, the principal of this bond may be declared due and payable prior to its maturity, in the manner and upon the conditions expressed in said

Indenture, and may otherwise be declared due and payable prior to maturity, upon the occurrence and continuance of default, as in said Indenture provided. This bond is subject to call and redemption before maturity on any interest day after January 1, 1915, at 105 per centum of the par value thereof, and accrued interest, in the manner and upon the terms set forth in said Indenture. No recourse shall be had for the payment of the principal or interest of this bond against any incorporator, stockholder, officer or director of the Company, past, present or future, either directly or through the Company, by virtue of any statute or constitution, or by the enforcement of any assessment or penalty, or otherwise, howsoever; any and all liability of incorporators, stockholders, directors and officers of the Company being hereby waived and released.

This bond shall pass by delivery, unless registered in the owner's name, on the books of the Company, at the office of the Trustee, in the City of Chicago, such registration being noted on the bond by said Trustee, after which no transfer shall be valid unless made on said books in the manner prescribed in said Indenture, and similarly noted on the bond, but the same may be discharged from registry by being transferred in like manner to bearer, after which transferability by delivery shall be restored, and again, from time to time, it may be registered or transferred to bearer as before. Such registration, however, shall not affect the transferability of the coupons for the interest hereon by delivery merely, and payment to the bearer thereof shall discharge the Company in respect of the interest therein mentioned, whether or not the bond shall have been registered. Neither this bond, nor any of the coupons for interest thereon, shall become or be valid until this bond shall have been authenticated by the certificate endorsed hereon, duly signed by the Trustee, under said Indenture.

IN WITNESS WHEREOF the MOBILE GAS COMPANY has caused these presents to be signed by its President, and its corporate seal to be hereunto affixed, and to be attested by its Secretary, and the coupons for such interest bearing the lithographed fac-simile signature of its Treasurer to be attached hereto, on this first day of January, A. D. 1910.

MOBILE GAS COMPANY,
By.....,
President.

Attest:

.....
Secretary.

(Form of Coupon.)

Form of coupon. No..... \$25.00

On the first day of, 19.... (unless the bond herein mentioned shall have been previously redeemed), the Mobile Gas Company will pay to bearer Twenty-five Dollars in gold coin, at CENTRAL TRUST COMPANY OF ILLINOIS, Chicago, Illinois, or at the First National Bank in the City of New York, without deduction for taxes, being six months' interest due that day on its First Mortgage Five Per Cent. Gold Bond No. subject to all of the terms of said bond and of the Indenture therein mentioned.

.....
Treasurer.

(Trustee's Certificate.)

THIS IS TO CERTIFY that this bond is one of the series of bonds described in the mortgage or deed of trust within mentioned.

CENTRAL TRUST COMPANY OF ILLINOIS,
By.....,
Secretary.

AND WHEREAS, in pursuance of the resolutions of the Board Directors, and also of the stockholders of the Gas Company, duly adopted at meetings of said Board of Directors and of the stockholders, severally and separately called and held, and in pursuance of all and every legal power and authority in it vested, the Gas Company proposes to make, execute and deliver bonds hereby secured as hereinabove and hereinafter more particularly set forth; and

WHEREAS, all things necessary to make said bonds, when issued and certified by the Trustee, the valid, binding, legal, negotiable obligations of the Company, and this indenture a valid mortgage or deed of trust to secure the payment thereof, have been done, happened, and been performed, and the execution and issue of said bonds and of this indenture, have in all respects been duly authorized, and the Company desires, from time to time, to issue and dispose of its bonds herein referred to and described;

NOW, THEREFORE, THIS INDENTURE WITNESSETH:

That in consideration of the premises and of the sum of one Granting clause. dollar, lawful money of the United States of America, in hand paid by the Trustee, party of the second part, to the Gas Company, party of the first part, at or before the ensealing and delivery of these presents, the receipt whereof is hereby acknowledged, and in order to secure the due and punctual payment of said several bonds and the interest thereon, the Gas Company, party of the first part, has granted, bargained, sold, transferred, assigned and conveyed, and by these presents does grant, bargain, sell, transfer, assign and convey unto the party of the second part, Trustee as herein provided and its respective successors in the trust hereby created, with full power of succession to and enjoyment of the privileges and franchises of the party of the first part, all of the following described rights, franchises, properties and estates, to-wit:

1st. All the rights, franchises, contracts, ordinances, liberties and privileges of the party of the first party hereto, whether

now owned by it or hereafter acquired by it, together with the rents, issues and profit thereof.

Description of
property con-
veyed.

2nd. All of the real and personal property of every kind and character of the Gas Company, party of the first part, whether now owned by it or hereafter acquired by it, together with the rents, issues and profits thereof, including all rights of way, buildings, plants, machinery, apparatus, equipments, appliances, conduits, pipes, pipe lines, mains, wires, poles, tools, fuel, supplies, furniture, fixtures and all real and personal property of every kind and character connected with or appurtenant to or obtained for or in connection with the plants and works of the party of the first part for the manufacture, distribution and supply of gas, electricity, oil or heat for any and all purposes, wherever located, whether now owned, leased or held by the party of the first part, or hereafter acquired by it, and particularly including all of the following described real estate, to-wit:

(a) All and singular that tract of land constituting a part of the "William Fisher claim" described as follows, viz.: Beginning at an iron pipe six feet six inches in length, set at the northeast corner of William Fisher's claim and running thence north 60 degrees west two and 08/100 chains, thence south $5\frac{1}{2}$ degrees west, twenty-seven 50/100 chains to Bayou Marmotte (fifty links north of Stone street), thence with the meanders of said bayou as follows: North $27\frac{1}{2}$ degrees east 2 90/100 chains, north 61 degrees east 1 50/100 chains, north 5 degrees east 2 chains, north 23 degrees east 1 50/100 chains, north $23\frac{1}{2}$ degrees east 2 27/100 chains, north 30 degrees east 2 11/100 chains, north $65\frac{1}{2}$ degrees west 50/100 chains, north 18 degrees east 1 13/100 chains, north 15 degrees east 1 10/100 chains, north 1 02/100 chains, north $57\frac{1}{4}$ degrees east 82/100 chains, north 35 degrees west 1 chain, north 41 degrees west 91/100 chains, north $11\frac{1}{4}$ degrees, west 1 20/100 chains, north $4\frac{1}{2}$ degrees east 68/100 chains, north 8 degrees west 69/100 chains, north 57 degrees west 80/100 chains north $10\frac{1}{2}$ degrees

east 1 chain, north 26 degrees east 1 chain, north 16 degrees west 80/100 chains, north 38 degrees west 1 chain, north 10 degrees west 63/100 chains, north 49½ degrees west 70/100 chains, north 33 degrees east 1 50/100 chains, north 55 degrees east 1 chain, north 34 degrees west 1 chain, north 20½ degrees east 30/100 chains to the place of beginning, containing seven 23/100 acres; also the following piece and parcel, beginning at the southeast corner of the said "Fisher's claim" and running north 60 degrees west 2 08/100 chains to a stake, thence north 5½ degrees east 2 50/100 chains to Bayou Marmotte and thence with the said Bayou south 48½ degrees east 2 08/100 chains, thence south 2 15/100 chains to the place of beginning, containing 40/100 of an acre; the whole of the parcels above described making 7 63/100 acres; being the same property conveyed by Joseph Krebs and wife to James H. Caldwell by deed bearing date first day of December, 1836, and of record in the Probate Court of Mobile County in Book T, pp. 78, 79.

(b) Also the following described lots of land, viz.: Seven lots, numbered one, two, three, four, five, six and seven in square number two; lots number one, two and three, having each a front of forty-one 9/12 feet on Stone street by a depth of one hundred and ten feet to lot number 4 in same square; lots number four, five, six and seven having each a front of forty-five 6/12 feet on Marmotte Alley by a depth of one hundred and twenty-five 6/12 feet to the gas works property, and bounded as follows, to-wit: North by Chestnut Alley, east by the gas works property, south by Stone Street and west by Marmotte Alley, said seven lots comprising the whole of square number two, which property was conveyed to said James H. Caldwell and others by Helair Krebs, Administrator, with the will annexed of Rene Krebs, deceased, by deed bearing date the fifth day of April, 1854, and of record in the Probate Court of Mobile County in Book No. 8, N. S., pp. 69, 70, 71.

(c) All and singular that certain piece, parcel or lot of land situate, lying and being in the City of Mobile, and de-

scribed as follows, to-wit: On the northeast corner or intersection of Chestnut and the street now or formerly known as Fifth Street, having a front on Chestnut Street of 55 feet and extending northwardly on the street now or formerly known as Fifth Street for a depth of 110 feet, having the same width in rear as in front, and being the same property which was conveyed to the Mobile Gas Light & Coke Company by Thomas K. Irwin and wife, by deed dated October 5, 1868, and recorded in the office of the Judge of Probate of Mobile County, Alabama, on the 13th day of October, 1868, in Deed Book No. 24 N. S., pp. 608 and 609.

(d) All of the gas works, buildings, structures, erections and constructions now or hereafter placed on the above described real estate, with their fixtures.

3rd. All of the engines, furnaces, boilers, machinery, shafting, belting, retorts, tanks, condensers, pumps, steam holders, gas holders, exhausters, purifiers, reservoirs, expansion tanks, gas mains and pipes, tunnels, service pipes, pipe lines, fittings, gates, valves, connections, implements, gas meters, lamps, and all other appliances, instruments and appurtenances now owned by the Gas Company or hereafter to be acquired by it, and constituting or to constitute a part of its gas works, or equipment, or used or provided for use in, or appurtenant to, the production, distribution and sale of gas and its by-products and residual products, within the limits of the City and County of Mobile in the State of Alabama and their vicinities, and all stores, repair parts, stock in trade, material and supplies acquired or to be acquired by the Gas Company in connection with its said business.

4th. All of the easements, rights, powers, privileges, franchises, licenses, immunities and concessions of the Gas Company to lay gas mains and pipes, and to repair and maintain the same, in, under, over, upon or across the streets, alleys, sidewalks, bridges, highways and other public places of the City and County of Mobile, in the State of Alabama, or in,

under, upon, over or across any private property in said City or County, meaning and intending to include all such rights, privileges, franchises, concessions, easements, powers, licenses and concessions conferred upon it by ordinance or resolution of the City or Port of Mobile, or both, or by order, resolution, or grant of the corporate authorities of the County of Mobile, or by virtue of the charter or act of incorporation of the Mobile Gas Light and Coke Company or of the Electric Lighting Company of Mobile, or by any private person or body corporate, or in whatsoever manner acquired or held.

5th. All of the incomes, revenues, contributions, receipts, gas rents, returns, contracts, leases, claims, accounts, demands, choses in action, books of account and contract rights of all kinds belonging to the Gas Company, and all other property of any and every kind and description, real, personal and mixed, of the Gas Company, wheresoever the same may be situated, and not hereinbefore specified or referred to, with all tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining and the reversion or reversions, remainder or remainders, rents, issues, and profits thereof, together with all of the good will of the business of the Gas Company.

6th. All of the property, real, personal and mixed, of all kinds, whatsoever, including rights, privileges, ordinances, immunities, and franchises, which the Gas Company may hereafter acquire, or to which it may hereafter become entitled.

To HAVE AND TO HOLD the said lands, gas works, real and personal property, rights, privileges, franchises, estate and appurtenances hereby conveyed or assigned, or mentioned and intended so to be, as well as all such after acquired property, unto the Trustee, and to its successor or successors in the trust hereby created, forever, but in trust, nevertheless, for the equal, proportionate benefit and security of any and all bonds issued and to be issued hereunder, without regard to the time

Property in trust
for security of
bonds.

of the actual issue of said bonds, so that each of said bonds shall have, under and by virtue of this Indenture, the same right, lien and privilege as every other bond issued and to be issued hereunder, and as though all had been executed and delivered simultaneously with the execution and delivery of this Indenture.

And it is hereby covenanted and agreed that all said bonds hereby secured shall be issued, certified and delivered, received and negotiated, and that the mortgaged property and premises are hereby conveyed, assigned and transferred by the Gas Company to the Trustee, subject to the further covenants, conditions, uses and trusts hereinafter set forth, and it is covenanted and agreed between the parties hereto as follows:

ARTICLE I.

Manner of executing bonds.

SECTION 1. All bonds to be secured hereby shall be signed by the President, or one of the Vice-Presidents, of the Gas Company, and the corporate seal of the Gas Company shall be thereto affixed by the Secretary or an Assistant Secretary of the Gas Company. In case the officers, who shall sign and seal any of said bonds as aforesaid, shall cease to be such officers of the Gas Company, after delivery of such bonds to the Trustee, but before the bonds so signed and sealed shall have been actually authenticated and redelivered by the Trustee, such bonds may, nevertheless, upon the request of the Gas Company, be issued, authenticated, and delivered as though the persons who signed and sealed such bonds had not ceased to be officers of the Gas Company.

Coupons authenticated.

The coupons to be attached to said bonds shall be authenticated by the engraved or lithographed signature of the present Treasurer or any future Treasurer of the Gas Company, it being intended that the Gas Company may adopt and use for that purpose the engraved or lithographed signature of any such Treasurer, notwithstanding that he may have ceased to

be the Treasurer of the Gas Company at the time when said bonds shall be actually authenticated and delivered. All of said bonds, when executed by the Gas Company, shall be delivered to the Trustee to be authenticated by it, and the Trustee shall authenticate and deliver the same only as provided in this Article.

Only such bonds as shall bear thereon the certificate of the Trustee, duly signed, shall be secured by this Indenture, or entitled to any lien or benefit hereunder; and such certificate of the Trustee, upon any such bond executed on behalf of the Gas Company, shall be conclusive evidence that the bond so authenticated has been duly issued hereunder, and is entitled to the benefits of the trust hereby created. The aggregate amount of all the bonds which may be issued and outstanding under this Indenture shall not, at any time, exceed three million dollars (\$3,000,000).

Certification of bonds.

Limit of bonds \$3,000,000.

SEC. 2. Bonds to the aggregate amount of five hundred and fifty thousand dollars (\$550,000), numbered from 1 to 550, both inclusive, shall forthwith be executed by the Gas Company and delivered to the Trustee for authentication, and the Trustee shall (without awaiting the recording of this Indenture) authenticate and deliver the same to or upon the order of the Gas Company, signed by its President or a Vice President and its Secretary, or an Assistant Secretary; without any obligation on the part of the Trustee to see to the use or application of said bonds or their proceeds.

\$550,000 bonds deliverable immediately.

Until the bonds intended to be secured hereby can be engraved and prepared, the Gas Company may execute and deliver certificates entitling the holder thereof to receive a specified amount of the bonds to be issued hereunder and secured hereby, as and when the same are ready for delivery. Such certificates shall be in such form as shall be approved by the Gas Company and may be issued in such amounts as the Gas Company shall from time to time determine, not exceeding, in the aggregate, the amount of bonds authorized to be issued

Temporary certificates.

from time to time under the provisions of this indenture. Each such certificate shall be authenticated by the Trustee as one of the temporary bond certificates referred to in this indenture, and shall not be valid unless so authenticated, and such certificates shall only be transferable in such manner as may be specified in such certificates. Such certificates so issued shall, upon the surrender thereof to the Gas Company, be exchangeable for the bonds to be issued under and secured by this indenture, and upon any such exchange such certificates shall be forthwith canceled by the Trustee and delivered to the Gas Company. Until so exchanged, the holders of said certificates shall be in all respects entitled to the same rights, lien, benefit and security as though they were the holders of bonds issued and certified under this indenture to the amounts specified in such respective certificates.

Remaining bonds
held in escrow.

SEC. 3. The remaining two million four hundred and fifty thousand dollars (\$2,450,000) in amount of said bonds (being bonds numbered 551 to 3000, both inclusive, of the denomination of \$1000 each) shall remain in escrow with said Trustee, and shall be hereafter, from time to time, certified and delivered by said Trustee to the Gas Company, or its order, in such quantities as may be required to reimburse the Gas Company (taking said bonds at their face value) for not exceeding eighty (80) per cent. of the actual and reasonable cost to the Gas Company of any permanent extensions, additions, or improvements to its present plant or property hereafter made, or of any additional equipment or other property hereafter acquired by it (through construction, purchase or otherwise) as and for a part of its permanent or fixed investment for its business, above and beyond its present plant and property; *provided*, however, and the right of the Gas Company to have bonds certified and delivered to it by said Trustee under this clause shall be so limited that no bonds shall be so certified and delivered unless the gross earnings of the company derived exclusively from the sales of

gas for the twelve calendar months next preceding any request for such bonds, or any part thereof, shall be at least four and one-half times the interest charges on all bonds outstanding (including those so requested to be issued) at the time of such request; and provided also, that for such period the net earnings of the Gas Company after deducting all operating expenses, taxes, insurance and reasonable charges for maintenance, replacements and depreciation, shall have amounted to a sum which is equal to or in excess of ten (10) per cent. of the face value of all the bonds hereby secured and outstanding at the time of any such request, together with a sum equal to or in excess of ten (10) per cent. of the face value of the additional bonds so requested to be certified and issued, such showing as to earnings to be included in the affidavit accompanying the request for any of such bonds as hereinafter provided.

It is expressly understood and agreed, however, that none of said escrow bonds shall be certified and delivered to said Gas Company except upon the request of the Gas Company, which request shall be evidenced by (a) a certified copy of a resolution of its board of directors directing the issuance thereof, to whom the same are to be delivered and the purpose for which they are issued; (b) a certificate signed by the President or Vice-President of the Gas Company, attested by the Secretary or Assistant Secretary, under the corporate seal of the Gas Company and verified by the affidavit of the manager or engineer of the Gas Company giving an itemized statement of the expenditures for which the Gas Company seeks partial reimbursement as aforesaid, stating the gross and net earnings of the Gas Company for the period hereinabove required, and further stating that all of the property, plant or equipment acquired by such expenditures has become subject to the lien of this mortgage or deed of trust as a first charge and lien thereon.

The request of the Gas Company, and the cer-

tificate and affidavit of its officers as aforesaid, shall constitute a sufficient warrant, direction or justification to the Trustee for certifying and delivering to the Gas Company any escrow bonds requested of it under the foregoing provisions of this clause, and due and sufficient evidence of the facts therein stated; but said Trustee, before certifying any such bonds, may, in its discretion, require in addition to such request and affidavit, the production of vouchers, the inspection by its engineers of the property and by its auditor or representatives of the books of account of the Gas Company, and may require, in its discretion, such further or additional evidence as it deems proper or necessary all at the reasonable expense of the Gas Company.

Expenditures once used or included as a basis for the certification and issue of any bonds under this article, shall not again be used or included as a basis for the certification and issue of any bonds hereunder.

Upon certifying or delivering any bonds under this mortgage or trust deed all coupons thereon then matured shall be detached and canceled by the Trustee and by the Trustee delivered to the Gas Company.

SEC. 4. In case any bond issued hereunder, with the coupons thereto pertaining, shall become mutilated, or destroyed, the Gas Company may, in its discretion, issue, and the Trustee shall thereupon certify, a new bond of like tenor and date, including coupons, and bearing the same serial number, in exchange and in substitution for, and upon cancellation of, the mutilated bond and its coupons, or in lien of and substitution for the bond and its coupons so destroyed, upon receipt of satisfactory evidence of the destruction of such bond and its coupons, and receipt also of satisfactory indemnity. The Trustee shall incur no liability for anything done by it under this section.

SEC. 5. Nothing in this Indenture, expressed or implied, is intended or shall be construed to confer upon any person,

Mutilated or
destroyed bonds.

Rights hereunder
for parties and
bondholders only.

firm or corporation, other than the parties hereto, and the holders of the bonds issued under and secured by this Indenture, any right, remedy or claim, legal or equitable, under or by reason of this Indenture, or any covenant, condition or stipulation hereof; this Indenture, and all its covenants, conditions and stipulations, being intended to be, and being, for the sole and exclusive benefit of the parties hereto, and of the holders from time to time of the bonds hereby secured.

ARTICLE II.

SECTION 1. The Gas Company covenants that it will duly and punctually pay the principal and interest of every bond issued hereunder and secured hereby, at the dates and places and in the manner specified in such bond, or in the coupons thereto belonging, according to the true intent and meaning thereof, without deduction from either principal or interest for any tax imposed by the United States, or by any State, territory, county, city, village, township or other municipality or governmental subdivision, and which the Gas Company may be required to pay thereon, or to deduct or retain therefrom, under or by reason of any present or future law, the Gas Company hereby agreeing to pay all such taxes. The interest on the bonds shall be payable only upon presentation of the several coupons for such interest as they respectively mature, and, when paid, such coupons shall forthwith be cancelled. At all times until the full payment of the principal of the bonds secured by this Indenture, the Gas Company will keep an office or agency in the City of Chicago and in the City of New York where bonds and interest coupons may be presented for payment, and where notices or demands in respect of said bonds or coupons, and all other notices or demands hereunder, may be served, and, from time to time, the Gas Company will give written notice to the Trustee, of the location of such office or agency. In case the Gas Company shall fail to do so, presentation and demand may be

Covenant to pay
principal and
interest.

made, and notices may be served, at the office of the Trustee in the City of Chicago.

Registration
of bonds.

SEC. 2. The Gas Company, at the office of the Trustee, in the City of Chicago, will keep a register or registers for the registration and transfer of bonds issued hereunder, in which the Trustee will register, subject to such reasonable regulations as it may prescribe, any bonds issued hereunder and secured hereby.

Upon presentation to the Trustee, at its office in Chicago, Illinois, of any such registered bond, accompanied by the delivery of a written instrument of transfer in the form approved by the Gas Company or the Trustee, executed by the registered holder, and the payment of the Trustee's reasonable charge, such bond may be transferred upon such register by the registered holder, in person or by attorney, and such transfer shall be noted by the Trustee upon the register and upon the bond. The registered holder of any such registered bond shall also have the right to cause the same to be registered as payable to bearer, in which case transferability by delivery shall be restored, and thereafter the principal of such bond, when due, shall be payable to the person presenting the bond, but any such bond registered as payable to bearer may be registered again in the name of the holder, with the same effect as a first registration thereof. Successive registrations and transfers as aforesaid may be made, from time to time as desired, and each registration of a bond shall be noted by the Trustee on the bond. Registration of any bond, however, shall not affect the transferability of any coupon thereto belonging, by delivery merely, and payment to the bearer of any such coupon shall discharge the Gas Company in respect of the interest therein mentioned, whether or not the bond shall have been registered.

Covenant to pay
taxes, etc.

SEC. 3. The Gas Company promises, covenants, and agrees with the Trustee its successor and successors that so long as

any of the bonds to be issued under this mortgage or deed of trust or the interest to accrue thereon shall be outstanding or unpaid:

(a) It shall and will, from time to time, promptly pay and discharge or cause to be paid and discharged all taxes, rates, lawful levies or assessments and charges, special or general, ordinary or extraordinary, levied or imposed upon the said mortgaged premises and property, or any part thereof, the lien whereof might or could be held to be prior or equal to the lien of these presents, so that the same shall not fall into arrears, and so that the priority of this mortgage shall be duly preserved; *provided*, however, that nothing contained in this section shall require the Gas Company to pay such tax, assessment, impost or charge so long as the Gas Company shall in good faith and by appropriate legal proceedings contest the validity thereof, or its being a charge on the property covered by this Indenture and so long as such delay in payment shall not subject the property to forfeiture or sale. If the Gas Company shall fail to keep this covenant the Trustee may and upon the request of the holders of one or more of the bonds secured hereby and upon being provided with adequate funds for that purpose shall pay such taxes, assessments and charges; and all amounts so paid with interest at five per centum per annum shall be a charge upon the property hereby mortgaged prior to the bonds secured hereby, and may be forthwith sued for and recovered of the Gas Company in an appropriate action for that purpose.

(b) At its own cost and expense it will do and cause to be done, all things necessary to preserve and keep in full repair and efficiency and in full force and effect all said premises, property, rights, privileges, municipal ordinances and franchises and all things necessary to preserve and keep valid and intact the lien and incumbrance hereby created, and that it shall and will diligently preserve all rights, franchises and privileges to it granted and confirmed by law or otherwise, and

whenever necessary or advisable will comply with the laws of the State of Alabama and with the laws of any other State, and of the United States, in such manner and form as counsel learned in the law shall advise; and that it shall not and will not do or suffer any matter or thing whatsoever, whereby the lien of this mortgage might or could be lost or impaired, until the said bonds hereby secured, with all the interest accrued thereon, shall have been fully paid and satisfied.

Keep up
equipment.

(c) It will at all times keep itself supplied with equipment, apparatus and appliances sufficient to maintain full and complete efficiency for the purpose of its corporate existence, and that this mortgage shall be a first and prior lien thereon; that it will at all times keep all of the apparatus, appliances and other equipment which shall come, or is intended to come, under the lien of this mortgage or deed of trust in good order, complete repair and good working condition; that it will renew and replace from time to time such of the apparatus, appliances and equipment as may be worn out, lost or destroyed, so that at all times during the life of this mortgage or deed of trust such apparatus, appliances and equipment shall be undiminished in amount and value. This mortgage or deed of trust is intended to be a first lien on such new apparatus, appliances and equipment, and said apparatus, appliances and equipment are to be and shall immediately become subject in all respects to the terms of this mortgage or deed of trust, as though it had been part of the original apparatus, appliances and equipment hereby mortgaged or conveyed. The Gas Company shall from time to time, whenever required by the Trustee or its representative or representatives, furnish a full and complete statement of all such apparatus, appliances and equipment, and of its financial and physical condition, and shall, if requested by such Trustee, or its representative or representatives, allow it, by a competent engineer to be selected by such Trustee, to make full inspection of all the apparatus, appliances and equipment of the Gas Company, and

shall furnish all possible facilities to such Trustee for making such inspection the reasonable expense of such investigation and examination to be borne by the Gas Company.

At the close of business in each and every month during the life of the bonds secured hereby it will furnish to the Trustee or its representatives, and to its successors, a full and complete statement of its operations for the month then completed and of its financial conditions. The Trustee may, however, verify all such statements at the expense of the Gas Company.

(d) When and as the coupons attached to the bonds secured hereby are paid by it, the coupons shall be cancelled, and no purchase or sale of said coupons, or advance or loan upon the same, made on behalf of, or at the request of, or with the privity of the said Gas Company, and no redemption of the said coupons or any of them, by any guarantor of the payment of the same, shall be taken or operate as keeping the said coupons alive or in force as a lien upon the mortgaged premises, as against the holders of the bonds secured hereby and of the coupons annexed thereto. Neither shall the Gas Company extend or consent to the extension of the time of payment of any interest coupon, and if such extension be made with or without the consent of the Gas Company such interest coupon and the claim for interest represented thereby shall be subject to prior payment in full of the principal of the bonds and of the coupons whose payment shall not be extended. Cancellation of coupons.

(e) That it is well seized of the real estate, plants and other property above described as of a good, absolute and indefeasible estate, and that said property is free and clear of any incumbrance, lien or charge; that it will not create, or suffer to be created, any lien or charge having priority to or preference over the lien of these presents upon the mortgaged premises, or any part thereof, or upon the income thereof, and, within three months after the same shall accrue, it will pay, or cause to be discharged, or will make adequate provision for the satisfaction or dis- Warranty of title.

charge of, all lawful claims and demands of mechanics, laborers and others, which, if unpaid, might be given by law precedence as a lien or charge upon said premises, or any part thereof, or the income thereof. Provided, however, that nothing contained in this section shall require the Gas Company to pay any such claim or demand so long as the Gas Company, in good faith and by appropriate legal proceedings, shall contest the validity thereof, or its being enforceable as a lien or charge superior to this Indenture, and provided also that such delay in payment shall not subject the mortgaged property to forfeiture or sale.

Bonds must be sold in accordance with provisions of trust deed.

(f) It will not issue, negotiate, sell or dispose of any bonds hereby secured in any manner other than in accordance with the provisions of this mortgage and the agreements in that behalf herein contained, and in issuing, selling, negotiating or otherwise disposing of such bonds from time to time it will well and truly apply or cause to be applied the same or the proceeds thereof to the proper corporate purposes of the Gas Company, and, if the purposes for which such bonds are to be issued are prescribed hereby, only to and for the purposes so herein prescribed.

Detailed statements to Trustee.

(g) It will annually, during the month of January, send to the Trustee a statement in detail satisfactory to the Trustee of its operations for the preceding twelve (12) months, which shall include among other things, the gross income and sources thereof, operating expenses and cost of betterments, improvements and extensions made to the corporate properties, and any other data which the Trustee may require. The Trustee, may however, at any time by itself, its agent or representative, make an examination of the corporate properties and books of the Gas Company at the Gas Company's expense, and the Gas Company agrees to afford to the Trustee all facilities necessary for such examination.

Covenant to execute further assurances.

SEC. 4. The Gas Company, its successors and assigns, from time to time, on written demand of the Trustee, or its succes-

sor or successors, shall make, do, execute, acknowledge and deliver all such further acts, deeds, conveyances and assurances in the law, as may be reasonably advised or required for effectuating the intention of these presents, or for the better assuring and confirming unto the Trustee, and its successor or successors in the trust hereby created, upon the trusts and for the purposes herein expressed, all and singular the property hereby assigned and transferred to the Trustee, or intended so to be, as well that now owned by the Gas Company as that which shall hereafter be acquired by it.

ARTICLE III.

All or any of the bonds issued hereunder and secured hereby may be redeemed by the Gas Company on any interest day after January 1, 1915, at 105 per centum of the principal, and accrued interest. If the Gas Company shall elect to redeem any of the bonds hereunder, it shall notify the Trustee, at least sixty days prior to the interest date on which it is proposed to redeem said bonds, of the amount of bonds which the Gas Company desires to redeem. The Trustee shall thereupon draw by lot a number of bonds, equivalent to the amount specified. If all or any of the bonds so selected by the Trustee belong to registered holders, the Trustee shall thereupon give twenty days' notice in writing, by mail, to such registered holders that said bonds are called for payment on the next interest day thereafter ensuing. If all or any of the bonds so drawn are unregistered, the Trustee shall publish a notice that said bonds so selected are called for payment on the next ensuing interest day, at least once a week for three weeks in a newspaper of general circulation in the City of Chicago, in the State of Illinois, and for a like period in a newspaper of general circulation in the City of Mobile, in the State of Alabama. The notices to be given hereunder (unless the redemption be of the entire issue then outstanding) shall con-

Bonds redeemable
at 105 at any
interest day after
January 1, 1915.

tain the numbers of the bonds selected to be called, and shall state that upon presentation of said bonds, and the appropriate coupons appertaining thereto, for cancellation, at the office of the Trustee, on or after the next ensuing interest day, the principal of said bonds, and the interest accruing thereon up to such next ensuing interest day, after the date of said notice, will be paid to the person entitled to receive the same.

The Gas Company shall, at least thirty days previous to the interest date on which said bonds are called for payment, deposit with the Trustee a sum sufficient to pay 105 per centum of the principal of such bonds so called for payment, and the interest accruing thereon to the said interest date. Upon the making of such deposit, prior to the interest date when such bonds are called for payment, and the giving of such notice, the bonds so called for payment shall cease to bear interest after such interest date on which they are called for payment, anything in said bonds, or the coupons appertaining thereto, or this Indenture, to the contrary notwithstanding, and the holder of such bond shall be bound to look solely to the fund in the hands of the Trustee for the payment thereof. As and when said bonds are surrendered to the Trustee they shall be cancelled and delivered to the Gas Company. If any bond called for payment shall not be presented for payment on the next ensuing interest day after the date of the notice above mentioned, the Trustee shall thereupon withdraw from the fund on deposit with it the amount which shall be due to the holder of such bond, and shall keep the same separate and apart from said fund as a special trust (which shall not draw interest), and shall pay the same to the holder of said bond entitled to receive the same, upon presentation for cancellation of said bond and the appropriate coupons. All bonds so redeemed shall be cancelled by the Trustee and delivered to the Gas Company.

Deposit of redemption money to be made with Trustee.

ARTICLE IV.

SECTION 1. No coupon belonging to any bond hereby secured, which in any way, at or after maturity, shall have been transferred or pledged, separate or apart from the bond to which it relates, shall, unless accompanied by such bond, be entitled, in case of a default hereunder, to any benefit of or from this Indenture, except after the prior payment in full of the principal of the bonds issued hereunder and of all coupons and interest obligations not so transferred or pledged.

Detached coupons
subordinated.

SEC. 2. In case default shall be made (a) in the payment of any interest on any bond or bonds hereby secured and outstanding and such default shall continue for a period of three months; or (b) in the performance of any other covenant or agreement herein contained to be performed by the Gas Company, and such default shall continue for a period of three months after demand by the Trustee for performance thereof; then and in every such case, the Trustee may, and upon the written request of the holders of twenty-five per centum in amount of the bonds hereby secured, and then outstanding, shall, by notice in writing, delivered to the Gas Company, declare the principal of all the bonds hereby secured and then outstanding to be due and payable immediately; and upon such declaration the same shall become and be due and payable immediately, anything in this Indenture, or in said bonds, to the contrary notwithstanding.

Power to declare
bonds due on
default.

This provision, however, is subject to the condition that if, at any time, the principal of the said bonds shall have been declared due and payable, and all arrears of interest upon such bonds, with interest at the rate of five per centum per annum on the overdue installments of interest, shall either be paid by the Gas Company, or be collected out of the mortgaged premises, before any sale of the mortgaged premises shall have been made, and all the other covenants and agreements here-

in contained shall have been performed by the Gas Company, or their performance shall have been waived, and all expenses or liabilities incurred by reason of any action taken by the Trustee upon account of any such default shall either have been paid or secured to the satisfaction of the Trustee, then, and in every such case, the holders of a majority in amount of the bonds hereby secured and then outstanding, by written notice to the Gas Company and to the Trustee, may waive such default and its consequences; but no such waiver shall extend to or affect any subsequent default or impair any right consequent thereon.

Right to enter
after default.

SEC. 3. In case (1) default shall be made in the payment of the principal of any bond hereby secured; or in case (2) default shall be made in the due and punctual payment of the interest on any bond hereby secured, and such default shall continue, for a period of three months; or in case (3) default shall be made in the due observance or performance of any other covenant or condition hereby required to be kept or performed by the Gas Company, and such default shall continue for three months after written demand of performance by the Trustee; then and in every such case the Trustee, personally or by attorney, and in its discretion;

(a) May enter into and upon all or any part of the Gas Company's plants, franchises, real estate, gas works, pipes, mains, connections, machinery, equipment and appurtenances, and all other property hereby conveyed to the Trustee, or which may at any time become subject to this Indenture, and each and every part thereof, and may exclude the Gas Company therefrom, and having and holding the same, may use, operate, manage and control the Gas Company's plants, real estate, gas works, and all other property; manufacture, supply, buy and sell gas, and all articles or commodities produced or supplied, bought or sold by the Gas Company, in its business; execute any and all contracts and undertakings, and make new contracts and undertakings; and, in general, carry on and

conduct the business of said Gas Company as fully as it might do if in possession thereof; and exercise all lawful franchises and powers of the Gas Company; and upon every such entry the Trustee, at the expense of the trust estate, from time to time, either by purchase, repairs or construction, may maintain and restore, and insure and keep insured, the plants, pipes, mains, connections, machinery, tools, appliances and all other property provided for use in connection with the business of the Gas Company whereof it shall have become possessed as aforesaid and in the same manner and to the same extent as is usual with companies of like character; and make all necessary and proper repairs, renewals, replacements, alterations, additions, betterments and improvements thereto and thereon as to it may seem judicious; and in such case the Trustee shall have the right to manage the mortgaged premises and carry on the business and exercise all the rights and powers of the Gas Company, either in the name of the Gas Company or otherwise, as the Trustee shall deem best; and it shall be entitled to collect and receive all tolls, earnings, incomes and rents, issues and profits of the same, and every part thereof, and, after deducting the expenses of operating said properties, and of conducting the business thereof, and of all repairs, maintenance, renewals, replacements, alterations, additions, betterments and improvements, and all payments which may be made for taxes, assessments and insurance, or prior or other proper charges upon said premises and property, or any part thereof, and all liabilities incurred by it hereunder, as well as just and reasonable compensation for its own services, and for all attorneys, agents, clerks, servants and other employes by it properly engaged and employed, it shall employ the moneys arising as aforesaid as follows: (1) In case the principal of the bonds hereby secured shall not have become due by declaration or otherwise, to the payment of the interest in default in the order of maturity, with interest thereon at the same rate of interest as was borne by the bonds on which

Application of
funds.

said interest shall be in default, such payments to be made ratably to the persons entitled thereto without distinction or preference; (2) in case the principal of the bonds hereby secured shall have become due by declaration or otherwise, to the payment of the principal and accrued interest in the manner provided in Section Seven of this Article (IV); (3) upon the payment in full of whatever may be due for the principal and interest of the said bonds, or be payable for other purposes, the premises shall be returned to the Gas Company; or,

(b) May sell to the highest and best bidder all or any part of the real estate, plants, franchises, gas works, pipes, mains, connections, machinery, tools, implements, appurtenances, goods and chattels, and all other property held by or conveyed to it under this Indenture, or intended so to be, and all right, title, interest, claim and demand therein, and the right of redemption thereof, in one lot and as an entirety, or in separate lots, such as the Trustee shall deem best, and in one sale, or any number of separate sales, held at one time, or any number of times, which said sale or sales shall be made at public auction at such place in the City of Mobile, in the State of Alabama, and at such time and upon such terms as the Trustee may fix and briefly specify in the notice of sale to be given as herein provided, or as may be required by law; provided, always, that such sale or sales may be made at such other place or places and in such other manner as may be authorized by law.

Trustee on request of one-fourth of bondholders shall protect and enforce rights by suit.

(c) May, and upon the request of the holders of one-fourth in amount of the bonds outstanding hereunder shall, proceed to protect and enforce its rights and the rights of the bondholders under this Indenture by a suit or suits in equity or at law, whether for the specific performance of any covenant or agreement contained herein, or in aid of the execution of any power herein granted, or for any foreclosure hereunder, or for the enforcement of any other appropriate legal or equitable remedy, as the Trustee, being advised by counsel learned

in the law, shall deem most effectual to protect and enforce the rights aforesaid.

In case the Trustee shall have proceeded to enforce any right under this Indenture by foreclosure, entry or otherwise, and such proceedings shall have been discontinued or abandoned because of any waiver, or for any other reason, or shall have been determined adversely to the Trustee, then, and in every such case, the Gas Company and the Trustee shall be restored to their former position and rights hereunder in respect of the mortgaged property, and all rights, remedies and powers of the Trustee shall continue as though no such proceedings had been taken.

SEC. 4. Notice of any sale by the Trustee, pursuant to any provision of this Indenture, shall state the time and place when and where the same is to be made, and shall contain a brief general description of the property to be sold, and shall be sufficiently given if published once in each week for four successive weeks prior to such sale in two daily newspapers published in the City of Mobile, in the State of Alabama, and once in each week for four successive weeks in a daily newspaper published in Chicago, Illinois; provided, that if other or different notice shall be required by law, the notice thus required shall be given. Notice of sale

Anything in this Indenture contained to the contrary notwithstanding, the holders of a majority in amount of the bonds hereby secured, and then outstanding, from time to time, shall have the right to direct and to control (subject to the limitations above described) the method and place of conducting any and all proceedings for any sale of the property hereby mortgaged, or for the foreclosure of this Indenture, or for the appointment of a receiver, or the taking of any other appropriate action hereunder.

The Trustee, from time to time, may adjourn any sale or sales by it to be made under the provisions of this Indenture by announcement at the time and place appointed for such Adjournment of sale.

sale, or adjourned sale or sales, and, without further notice or publication, it may make such sale or sales at the time and place to which the same shall be adjourned.

Transfer to purchaser at sale.

SEC. 5. Upon the completion of any sale or sales under this Indenture, the Trustee shall execute and deliver to the accepted purchaser or purchasers all such deeds, conveyances, bills of sale or other instruments in writing as may be requisite, convenient, necessary or desirable to vest in the purchaser or purchasers the complete title to the property sold.

Power to execute instruments.

The Trustee and its successors hereby are appointed the true and lawful attorney or attorneys irrevocable of the Gas Company, in its name and stead, or otherwise, to make, execute, acknowledge and deliver all such deeds, conveyances, bills of sale or other written instruments, the Gas Company hereby ratifying and confirming all that its said attorney or attorneys shall lawfully do by virtue hereof.

Any sale or sales made under or by virtue of this Indenture, whether under the power of sale hereby granted and conferred, or under and by virtue of judicial proceedings, shall operate to divest all right, title, interest, claim and demand whatsoever, either at law or in equity, of the Gas Company of, in and to the property so sold, and shall be a perpetual bar, both in law and in equity, against the Gas Company, its successors and assigns, and against any and all persons claiming or to claim the property sold, or any part thereof, from, through or under the Gas Company, its successors or assigns; and the receipt of the Trustee for the consideration money paid at any such sale or sales shall be a sufficient discharge to the purchaser, without any liability on the part of the purchaser to see to the application of the purchase money, or to be bound to inquire as to the authorization, necessity, expediency or regularity of any such sale or sales.

SEC. 6. In case of any such sale, whether under the power of sale hereby granted or pursuant to judicial proceedings, the principal sums of all bonds hereby secured, if not previously due, shall immediately thereupon become due and payable, anything in said bonds or in this Indenture contained to the contrary notwithstanding.

All bonds due in case of sale.

SEC. 7. The purchase money, proceeds and avails of any sale or sales, whether under the power of sale hereby granted or pursuant to judicial proceedings, together with any sums which then may be held by the Trustee, under any of the provisions of this Indenture, as part of the trust estate, or the proceeds thereof, shall be applied as follows:

Application of proceeds of sale.

First: To the payment of the costs and expenses of such sale, including a reasonable compensation to the Trustee, its agents, attorneys and counsel, and of all expenses, liabilities and advances made or incurred by the Trustee, and all other charges which by the terms hereof or otherwise are prior to the bonds hereby secured.

Second: To the payment of the interest on said bonds accrued and unpaid in the order of maturity, with interest on overdue coupons at the rate of five per centum per annum, and if such proceeds be insufficient to make payment in full, then pro rata, subject, however, to the provisions of Section One of this Article.

Third: To the payment of the whole amount then owing and unpaid upon the bonds hereby secured and then outstanding, for principal; and in case such proceeds shall be insufficient to pay in full the principal amount so due and unpaid upon the said bonds, then to the payment of such principal, ratably.

Fourth: To the payment of the surplus, if any, to the Gas Company, its successors or assigns or to whomsoever may be lawfully entitled to receive the same.

Purchaser may
pay in bonds.

SEC. 8. In case of any sale hereunder, any purchaser for the purpose of making settlement or payment for the property purchased, shall be entitled to use and apply any bonds, and any matured and unpaid coupons, hereby secured, by presenting such bonds and coupons, in order that there may be credited thereon the sums applicable to the payment thereof out of the net proceeds of such sale to the owner of such bonds and coupons, as his ratable share of such net proceeds, after making any deductions which may be made from the proceeds of sale for costs, expenses, compensation and other charges, and thereupon such purchaser shall be credited on account of such purchase price payable by him, with the sums applicable out of such net proceeds to the payment of and credited upon the bonds so presented; and, at any such sale, any bondholders may bid for and may purchase, and upon compliance with the terms of sale, may hold, retain and possess and dispose of such property in their own absolute right, without further accountability.

SEC. 9. In case there shall be any existing judgment against the Gas Company unsatisfied or unsecured by bond on appeal for twenty days after demand from the Trustee that it be paid or secured by such bond; or in case the Gas Company shall make any assignment for the benefit of its creditors; or in case in any judicial proceeding, by any other person than the Trustee, acting for and on behalf of the bondholders hereunder, a receiver, assignee or trustee in bankruptcy shall be appointed of the Gas Company, or a judgment or order entered for the sequestration of its property; or in case the substantial or greater part of its property shall be seized under any writ of attachment, or other legal process, and it shall not, within thirty days after demand from the Trustee so to do, cause such property to be released or discharged therefrom by giving bond, or otherwise; then, and in every such case, the Trustee shall be en-

titled forthwith to exercise the right of entry herein conferred, and may also, and upon request of holders of a majority in amount of the bonds outstanding hereunder, shall proceed to exercise any and all other rights and powers herein conferred and provided to be exercised by the Trustee upon the occurrence and continuance of default, as hereinbefore provided, including the right to declare the principal of the bonds hereby secured, to be due and payable; and as a matter of right the Trustee shall thereupon be entitled to the appointment of a receiver of the premises hereby mortgaged and pledged and of the rents, incomes, issues and profits thereof, with such powers as the court making such appointment shall confer.

SEC. 10. The Gas Company covenants that; (1) in case default shall be made in the payment of any interest on any bond or bonds at any time outstanding and secured by this Indenture, and such default shall continue for a period of three months; or (2) in case default shall be made in the payment of the principal of any such bonds when the same shall become payable, whether by the maturity of said bonds, or by declaration as authorized by this Indenture, or by sale, as provided in Section Six of this Article (IV); then, upon demand of the Trustee, the Gas Company will pay to the Trustee, for the benefit of the holders of the bonds and coupons hereby secured then outstanding, the whole amount due and payable on all such bonds and coupons then outstanding, for interest or principal, or both, as the case may be, with interest at the rate of five per centum per annum upon the overdue principal and installments of interest; and in case the Gas Company shall fail to pay the same forthwith upon such demand, the Trustee, in its own name, and as Trustee of an express trust, shall be entitled to recover judgment for the whole amount so due and unpaid.

The Trustee shall be entitled to recover judgment as afore-

Trustee may recover judgment.

said, either before or after or during the pendency of any proceeding for the enforcement of the lien of this Indenture upon the mortgaged property, and the right of the Trustee to recover such judgment shall not be affected by any sale hereunder, or by the exercise of any other right, power or remedy for the enforcement of the provisions of this Indenture, or for the foreclosure of the lien hereof; and in case of a sale of the mortgaged property, and of the application of the proceeds of such sale to the payment of the debt, the Trustee, in its own name and as Trustee of an express trust, shall be entitled to enforce payment of and to receive all amounts then remaining due and unpaid upon any and all bonds issued hereunder and then outstanding, for the benefit of the holders thereof, and shall be entitled to recover judgment for any portion of the debt remaining unpaid, with interest. No recovery of any such judgment by the Trustee, and no lien of any execution upon property subject to the lien of this Indenture, or upon any other property, shall in any manner or to any extent affect the lien of the Trustee upon the mortgaged property, or any part thereof, or any rights, powers or remedies of the Trustee or of the holders of the bonds hereby secured; but such lien, rights, powers and remedies shall continue unimpaired as before.

Any moneys thus collected by the Trustee under this Section shall be applied by the Trustee toward payment of the amount then due and unpaid upon such bonds and coupons in respect of which such moneys shall have been collected, ratably and without preference or priority of any kind, except as provided in Section One of this Article, according to the amounts due and payable upon such bonds and coupons respectively, at the date fixed by the Trustee for the distribution of such moneys, upon presentation of the several bonds and coupons, and stamping thereon such payment if only partially paid, and upon surrender thereof if fully paid.

SEC. 11. The holders of two-thirds in amount of the bonds issued and outstanding at any time shall have, and they are hereby given, the absolute right to control the action of the Trustee in and about enforcing or waiving any of the provisions of this Indenture with reference to the prompt payment of the interest upon the bonds secured hereby, or the performance of any of the other covenants or conditions herein contained, except the payment of the principal of said bonds at the time they become due. And the holders of two-thirds in amount of such bonds shall have the right to direct the Trustee to waive any default which may occur in the payment of the interest on the bonds secured hereby, or the performance of any other of the covenants or conditions herein contained, except the payment of the principal of the bonds secured hereby at the time and place provided herein; and the holders of two-thirds in amount of said bonds shall further have the right to direct the said Trustee to discontinue any proceedings which it may have taken to foreclose this mortgage and deed of trust or to enforce in any way the provisions thereof, or to direct the said Trustee to restore to the Gas Company the property hereby conveyed in the event that said Trustee shall have taken possession, or to waive any other act or thing done or omitted to be done by said Gas Company in violation of the terms hereof, or of any covenant on the part of the Gas Company under this Indenture, except the payment of the principal of the bonds secured hereby at the time and place provided herein. Such request of the holders of two-thirds in amount of the bonds issued and outstanding shall be expressed in writing or by vote at a meeting of the bondholders, and upon the same being made in accordance with the provisions hereof, any election or declaration by said Trustee declaring the principal of said bonds due and payable, upon account of any default so waived, shall forthwith cease and determine and

Holders of two-thirds, in amount, of bonds may waive certain provisions.

become null and void, and any and all proceedings commenced by the said Trustee to foreclose this Indenture shall forthwith abate, and the said Trustee shall forthwith surrender and deliver back to the said Gas Company the property and franchises, if any, which said Trustee shall have become possessed of by reason of such default; and, to the extent expressed in said request, any and all acts done or omitted to be done by said Gas Company in violation hereof shall be waived, and the right to take any action hereunder by reason thereof shall immediately cease and determine, but no such waiver shall extend to or affect any subsequent default or impair any right consequent thereon. In the event of any such waiver the Trustee shall have the right to insist upon being paid or secured to its satisfaction for all expenses and liabilities incurred by it up to the time of such waiver, and at the option of the Trustee such waiver shall not become effective until such payment shall have been made or such security given.

Appointment of receiver.

SEC. 12. In the event that said Trustee shall commence any appropriate proceedings at law or in equity for the purpose of foreclosing the security of this mortgage or deed of trust or the enforcement of any right or remedy hereunder, the said Trustee shall, as a matter of right, be entitled to the appointment of a receiver of and for all and singular the property hereby conveyed, and by and through said receiver to take possession thereof and operate the same and receive the tolls, rents, incomes, issues and profits thereof.

Surrender of possession to Trustee.

SEC. 13. The Gas Company shall have the right at any time, when in the judgment of its Board of Directors it is deemed needful or expedient so to do, to surrender the possession of each and all the property hereby conveyed to said Trustee, and to authorize said Trustee to forthwith proceed to dispose of the same in such manner as may be lawful and proper, and apply the proceeds of such disposition to the

satisfaction and payment of the principal and interest of the bonds secured hereby and the obligations arising hereunder, in the same manner as though there had been a default in the provisions of this Indenture.

SEC. 14. The Gas Company will not at any time insist upon or plead or in any manner whatever claim or take the benefit or advantage of any stay or extension law now or at any time hereafter in force, nor will it claim, take or insist upon any benefit or advantage from any law now or hereafter in force providing for valuation or appraisal of the mortgaged property, or any part thereof, prior to any sale or sales thereof to be made in pursuance of any provision herein contained, or to the decree, judgment or order of any court of competent jurisdiction, nor after any such sale or sales will it claim or exercise any right under any statute enacted by any state or otherwise to redeem the property so sold, or any part thereof, and it hereby expressly waives all benefit and advantage of any such law or laws, and it covenants that it will not hinder, delay or impede the execution of any power herein granted and delegated to the Trustee, but that it will suffer and permit the execution of every such power, as though no such law or laws had been made or enacted.

Waiver of stay
and extension
laws.

SEC. 15. No holder of any bond or coupon secured hereby shall have any right to institute any suit, action or proceeding in equity or at law for the foreclosure of this Indenture, or for the execution of any trust hereof, or for the appointment of a receiver, or for any other remedy hereunder, unless such holder shall previously have given to the Trustee written notice of such default and of the continuance thereof as hereinbefore provided; nor unless, also, the holders of one-fourth in amount of the bonds hereby secured then outstanding shall have made written request upon the Trustee and shall have offered to it a reasonable opportunity either to

Bondholders have
no right to bring
suit unless notice
given to Trustee
as provided
herein.

proceed to exercise the powers hereinbefore granted, or to institute such action, suit or proceeding in its own name; nor unless, also, they or some one or more of them shall have offered to the Trustee adequate security and indemnity against the cost, expenses and liabilities to be incurred therein or thereby; and such notification, request and offer of indemnity are hereby declared in every such case, at the option of the Trustee, to be conditions precedent to the execution of the powers and trusts of this Indenture for the benefit of the bondholders, and to any action or cause of action for foreclosure or for the appointment of a receiver, or for any other remedy hereunder; it being understood and intended that no one or more holders of bonds and coupons shall have any right in any manner whatever by his or their action to affect, disturb or prejudice the lien of this Indenture, or to enforce any right hereunder, except in the manner herein provided, and that all proceedings at law or in equity shall be instituted, had and maintained in the manner herein provided, and for the equal benefit of all holders of such outstanding bonds and coupons.

Remedies
cumulative.

SEC. 16. Except as herein expressly provided to the contrary, no remedy herein contained, conferred upon or reserved to the Trustee, or to the holders of the bonds hereby secured, is intended to be exclusive of any other remedy or remedies; but each and every such remedy shall be cumulative, and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity or by statute.

SEC. 17. No delay or omission by the Trustee, or of any holders of the bonds hereby secured, to exercise any right or power accruing upon any default as aforesaid, shall impair any such right or power, or shall be construed to be a waiver of any such default or acquiescence therein; and every power and remedy given by this Article to the Trustee, or to the

bondholders, may be exercised from time to time, and as often as may be deemed expedient by the Trustee or by the bondholders.

SEC. 18. The Gas Company further hereby agrees to keep its property provided for use in connection with its business, of the character usually insured by gas companies, insured to its full insurable value, the Policies of Insurance to be so drawn as to make the loss, if any, payable to the Trustee hereunder as its interest may appear. Insurable property shall be held to be such, as either because of the character of its construction, or for other reasons, is generally covered by policies of insurance when issued by leading fire insurance companies on the properties of Gas Companies in the United States. In case of any loss covered by any policy of insurance, any appraisement or adjustment of said loss and settlement in payment of indemnity thereof which may be agreed upon between said Gas Company and any insurance company, may be consented to and accepted by the said Trustee who shall be in no way liable or responsible for the collection of any insurance in case of any loss. In the event of any such loss, or damage by fire, the Gas Company, should it elect so to do, shall have the right to demand by proper resolution of its Board of Directors, and to receive from the Trustee from time to time such portions or all of such insurance moneys received by the Trustee as said Gas Company shall deem wise to invest in permanent improvements, betterments and extensions of its said property, or repairs of damages caused by fire, or replacement of the buildings and machinery destroyed or injured. The certificates of the President or Vice-President, and the Secretary or Treasurer of the Gas Company, setting forth the necessity of the Gas Company for said money, and the improvements or betterments, repairs or replacements which have been made, and the affidavit of the manager or engineer of the Gas Company of the

Insurance.

cost thereof, shall be sufficient evidence upon which such insurance money shall be paid to the Gas Company to the amount of the cost of such improvements or betterments, repairs or replacements, as shown by such certificates and affidavit, and such resolution, certificates and affidavits shall constitute full protection to the Trustee in making payments in accordance herewith. But the Trustee may, in its discretion, make further investigations and require further information as to the necessity of and benefits to accrue from such application of all or any part of the insurance moneys, all at the expense of the Gas Company. No duty in respect to insurance or the form of policies shall rest upon the Trustee other than to receive such policies or statement relative thereto as may be handed to it by the Gas Company.

Investment of insurance money.

All sums of money paid to said Trustee for fire loss under the provisions of this Article and not required within a reasonable time by the Gas Company for the purposes named above, shall be held, invested and disposed of by said Trustee until required by the Gas Company, as is provided in Article VII in the case of proceeds of property sold and released under the provisions of that Article from the terms of this mortgage.

ARTICLE V.

No personal liability.

No recourse under or upon any obligation, covenant or agreement contained in this Indenture, or in any bond or coupon, or because of the creation of any indebtedness, hereby secured, shall be had against any incorporator, stockholder, officer or director of the Gas Company, past, present or future, or of any successor corporation, either directly or through the Gas Company, by the enforcement of any assessment or penalty, or by any legal or equitable proceeding by virtue of any statute or otherwise; it being especially agreed and understood that this mortgage, and the obligations here-

by secured, are solely corporate obligations, and that no personal liability whatever shall attach to, or be incurred by, incorporators, stockholders, officers or directors of the Gas Company, or of any successor corporation, or any of them, because of the incurring of the indebtedness hereby authorized, or under or by reason of any of the obligations, covenants or agreements contained in this Indenture, or in any of the bonds or coupons hereby secured, or implied therefrom; and that any and all personal liabilities of every name and nature, and any and all rights and claims against every such incorporator, stockholder, officer or director, whether arising at common law or in equity, or created by statute or constitution, are hereby expressly released and waived as a condition of, and as a part of the consideration for, the execution of this Indenture and of the issuing of the bonds and interest obligations secured hereby.

ARTICLE VI.

SEC. 1. While the Gas Company shall be in possession of the mortgaged premises, and there shall be no existing default in the payment of principal or interest of any of said bonds, or in the performance of any of the stipulations, conditions and provisions of this indenture, on its part, the Gas Company, its successors and assigns may, with the consent of the Trustee, from time to time, sell or otherwise dispose of, free and clear from the lien of this mortgage, any machinery, apparatus, equipment or personal property other than tools, furniture and office fixtures, held or intended for use upon or about the works or plant hereby mortgaged, which shall have become worn out, or otherwise unsuitable for use, or whenever it shall be intended to replace the same by other machinery, apparatus, equipment or personal property, and the Gas Company at any time before such default shall have full

Disposition of unnecessary property.

power, in its discretion and without the consent of the Trustee, from time to time to dispose, free and clear from the lien of this Indenture, of any portion of its tools, furniture and office fixtures which shall have become worn out or otherwise unfit for use or whenever it shall be intended to replace the same by other tools, furniture or office fixtures; *provided*, however, that such sales or disposition shall not impair or reduce the efficiency of the machinery, apparatus, equipment or other personal property required for the operation of said works or plant, and all machinery, apparatus, equipment and personal property which shall from time to time be acquired for use upon or about or in connection with said works or plant, by the said Gas Company, its successors or assigns, together with the proceeds of any such sale or disposition or otherwise, shall be subject to the lien of this mortgage.

The Trustee shall have the authority by requiring additional information or by further investigation at the expense of the Gas Company to determine to its own satisfaction the efficiency and merit of the substituted property as being equal to that disposed of or abandoned.

While the Gas Company shall be in the possession of the mortgaged premises, and there shall be no existing default as aforesaid, the Trustee shall have full power and authority in its discretion, upon the written request of the Gas Company, and upon the delivery to it of an attested copy of the resolution of the board of directors of the Gas Company authorizing the same, to release or convey any land or other real property hereby mortgaged, which, in the judgment of the board of directors of the Gas Company, is not required for the purpose of constructing, maintaining or operating its works or plant, and which the Gas Company shall, in good faith, sell and desire to have released and conveyed in order to give good title to the purchasers; and all the proceeds arising from the sale of any such land or real property shall either be applied to

the purchase of other property for the Gas Company, which shall immediately become subject to this mortgage, and which, in the judgment of the Trustee, is of equal value or benefit to the Gas Company, or, at the option of the Trustee, all the proceeds arising from the sale of any such lands, or real property shall be paid over to it, to be used by said Trustee in the purchase or redemption of one or more of the outstanding bonds hereby secured, at such price as may be agreed upon by the Trustee and the Gas Company.

SEC. 2. The Trustee may advertise publicly for proposals to sell such bonds, or, in its discretion, purchase the same at private or public sale at stock exchanges or otherwise as to it may seem most advisable and practicable, at such agreed price. After 5 years from the date hereof, if none of the bonds secured hereby can be so purchased, the Gas Company shall call for redemption, in accordance with the provisions of Article III. of this indenture, such number of bonds secured hereby as the funds derived as aforesaid and available for the purpose will redeem and pay at the price named in said Article III., and the Trustee shall use such funds in the redemption and payment of the bonds so called. All funds so received and held by the Trustee, prior to their investment in bonds secured hereby, shall be additional security for the payment of the bonds hereby secured, and if any such funds remain after the full payment of all the principal and interest of all bonds secured hereby the same shall be turned over to the Company.

Advertise proposals to sell bonds.

SEC. 3. All moneys received as compensation for any property or rights of the Gas Company taken by the exercise of the power of eminent domain shall be treated as if realized from a voluntary sale by the Gas Company of the property or rights so taken, and such moneys shall be subject in all respects to the provisions of this article of this mortgage, as though realized from a voluntary sale, except that if the condemna-

Money received from Eminent Domain proceedings.

tion proceedings are defended by the Gas Company, its reasonable expenses and attorneys' fees in making such defense shall be deducted from any award and only the surplus paid over to the Trustee as herein provided.

SEC. 4. All bonds and coupons secured hereby and purchased or redeemed by the said Trustee under the foregoing provisions, shall be forthwith canceled by it and surrendered to the Gas Company and shall not again be issued. Provided, always, however, that no portion of the works or plant or other property of the Gas Company which in the judgment of the Trustee is or may be essential to the due operation thereof, shall be released under the provisions of this article of this mortgage, unless replaced by property which, in the judgment of the Trustee, is at least of equal value and of equal benefit to the efficient operation of the same.

The said Trustee shall not be subject to any liability to any person or persons, by reason of any act done or performed in good faith under the provisions of this article.

SEC. 5. The authority granted by this article shall be, however, subject to the following conditions and restrictions:

(a) This article shall not be construed to authorize the Trustee to release the property covered hereby as an entirety, or substantially as an entirety; nor shall said Trustee be required to release any property hereunder which in the judgment of said Trustee is essential to the proper and efficient conduct of the Gas Company's business.

(b) No such property shall be released unless the Gas Company shall have sold or exchanged, or contracted to sell or exchange, the same for other property, which fact shall be evidenced by the written certificate of the President or Vice-President of the Company.

(c) The request for the release of any such property shall be accompanied by the sworn statement of the President or Vice-President of the Gas Company that the price at which

it is proposed to sell said property is the full fair value thereof, or that the property proposed to be exchanged therefor is of equal value to the property sought to be released.

ARTICLE VII.

If at any time moneys shall be paid into the Trustee hereunder for the benefit of the bondholder or holders without regard to the source from which they arise, and if there is no immediate disposition to be made of said moneys, the Trustee shall forthwith invest such moneys in any United States, State or Municipal bonds, or in any Railroad Mortgage bonds listed on the New York Stock Exchange and having a quoted value thereon, which may be purchased at the market price on such Exchange; provided, however, that the price paid therefor shall not exceed a price at which they will, if held until maturity, yield an interest return of at least $3\frac{1}{2}$ per centum per annum; be it provided, further, however, that all bonds purchased by the Trustee for the temporary investment of such deposited moneys shall have such qualifications as to make them legal investments for savings banks in the State of New York.

Investment of
moneys awaiting
disposition.

ARTICLE VIII.

SECTION 1. Until some default shall have been made in the due and punctual payment of the interest, or of the principal, of the bonds hereby secured, or of some part of such interest or principal, or in the due and punctual performance and observance of some covenant or condition hereof obligatory upon the Gas Company, and until such default shall have continued beyond the period of grace, herein provided, if any, the Gas Company, its successors and assigns, shall be suffered and permitted to retain the actual possession of all

Gas Company to
retain possession
until default.

the property that may be conveyed and mortgaged to the Trustee, and to manage, operate and use the same, and every part thereof, with the rights and privileges appertaining thereto, and to collect, receive, take, use and enjoy the tolls, earnings, income, rents, issues and profits thereof.

Gas Company to
receive reconvey-
ance of property
when bonds are
paid.

SEC. 2. If, when the bonds hereby secured shall have become due and payable (whether by lapse of time or by exercise of the privilege of redemption), the Gas Company shall well and truly pay, or cause to be paid, the whole amount of the principal, moneys and interest due upon all of the bonds and coupons for interest thereon hereby secured then outstanding, or shall provide for such payment by depositing with the Trustee hereunder for the payment of such bonds and coupons the entire amount then due thereon for principal and interest, and shall also pay, or cause to be paid, all other sums payable hereunder by the Gas Company, and shall well and truly keep and perform all the things herein required to be kept and performed by it, according to the true intent and meaning of this Indenture, then, and in that case, the Trustee shall pay to the Gas Company all moneys, or other property then held by it hereunder, and all the property, rights and interests hereby conveyed or pledged shall revert to the Gas Company, and the estate, right, title and interest of the Trustee shall thereupon cease, determine and become void; and the Trustee in such case upon demand of the Gas Company, and at its cost and expense, shall execute proper instruments acknowledging satisfaction of this Indenture, and such deeds of release or conveyance as shall be necessary, proper or requisite to revest in the Gas Company the property then subject to this Indenture free and discharged from the lien thereof.

ARTICLE IX.

The Trustee, for itself, and its successors, hereby accepts the trusts and assumes the duties herein created and imposed upon it, but only upon the following terms and conditions, to-wit:

Trustee accepts trusts—Duties.

(a) The Trustee shall be protected in any action taken by it upon any notice, resolution, vote, request, consent, certificate, affidavit, statement, bond or other paper or document believed by it to be genuine, and to have been passed or signed by the proper parties.

(b) The Trustee may select and employ in and about the execution of this trust suitable agents and attorneys, whose reasonable compensation shall be paid to the Trustee by the Gas Company, or in default of such payment, shall be a charge upon the hereby pledged premises and property, and the proceeds thereof, paramount to said bonds.

(c) The Trustee, save for its gross negligence or willful default, shall not be personally liable for any loss or damage.

(d) It shall be no part of the duty of the Trustee to file or record this Indenture as a mortgage or conveyance of real estate, or as a chattel mortgage, or as a conveyance of transfer of personal property, or to renew such mortgage, or to procure any further, other or additional instruments of further assurance, or to do any other act which may be necessary to be done for the continuance of the lien hereof, or for giving notice of the existence of such lien, or for extending or supplementing the same. The Trustee shall not be liable for the exercise of any discretion or power hereunder, or mistakes or errors of judgment, or otherwise in connection with this trust, except wilful misconduct or gross negligence. The Trustee shall not be obliged to take notice of any default until

it has received written notice thereof, signed by the holders of at least one-fourth of the bonds outstanding hereunder.

(*e*) The Trustee shall have a first lien upon the mortgaged property and fund for its reasonable expenses, counsel fees and compensation, and for all liabilities incurred in and about the execution of the trust hereby created, and the exercise and performance of its power and duties hereunder, which expenses, counsel fees and compensation the Gas Company covenants and agrees to pay on demand.

(*f*) The Trustee shall be under no obligation or duty to perform any act hereunder, or defend any suit in respect hereof, unless reasonably indemnified. Excepting as herein expressly otherwise provided, the Trustee shall not be bound to recognize any person as a bondholder, unless and until his bonds are submitted to the Trustee for inspection, if required, and his title satisfactorily established, if disputed.

(*g*) The recital of facts herein and in said bonds contained shall be taken as statements by the Gas Company, and shall not be construed as made by the Trustee.

(*h*) The Trustee shall not be personally liable for any debts contracted by it, nor for damages to persons or property injured, nor for salaries or nonfulfillment of contracts, during any period in which the Trustee shall manage or operate the trust property, franchises or premises, upon entry or voluntary surrender, as hereinbefore provided.

(*i*) It shall be no part of the duty of the Trustee to procure any fire or other insurance on the mortgaged property, or to renew any policies which may be procured by it or the Gas Company, nor shall it be under any obligation to pay any taxes, assessments or other levies on the mortgaged property.

(*j*) The Trustee shall have no responsibility for the validity of this instrument, or of the execution or acknowledgment or recording thereof, or of any bond secured hereby; nor

for the nature, extent or amount of the security afforded hereby; nor shall it be responsible for any breach by the Gas Company of any covenant in this Indenture contained.

(k) In case at any time it shall be necessary or proper for the Trustee, its successor or successors, to make any investigation respecting any fact preparatory to taking or not taking any action or doing or refraining from doing anything under this Indenture, as such Trustee, the certificate of the Gas Company, under its corporate seal, signed and sworn to by its President, Vice-President, Secretary or Treasurer, shall be sufficient evidence of such fact to protect the Trustee, or its successor or successors, in any action it may take or refrain from taking by reason of the supposed existence of such fact.

(l) The Trustee, or any successor or successors hereafter appointed, may resign and be discharged of the trust hereby created by written notice thereof to the Gas Company, and by publication at least once in each week for four successive weeks in a daily newspaper, published in the City of Chicago, and for a like number of times in a daily newspaper published in the City of Mobile, Alabama, and by due execution of the conveyances herein required.

ARTICLE X.

The Trustee, or any Trustee hereafter appointed, may be removed at any time by an instrument or concurrent instruments in writing, signed by the holders of not less than two-thirds in amount of the bonds hereby secured and then outstanding.

Removal of Trustee.

In case at any time the Trustee, or any Trustee hereafter appointed, shall resign, or shall be removed, or otherwise shall become incapable of acting a successor may be appointed by the holders of a majority in amount of the bonds hereby secured and then outstanding by an instrument

Appointment of new trustee.

or concurrent instruments, signed by such bondholders, or their attorneys in fact duly authorized; provided, nevertheless, and it is hereby agreed and declared, that in case at any time there shall be a vacancy in the office of the Trustee hereunder, the Gas Company, by an instrument executed by order of its Board of Directors, may appoint a Trustee to fill such vacancy until a new Trustee shall be appointed by the bondholders, as herein authorized. The Gas Company shall publish a notice of any such appointment by it made once in each week for four successive weeks in a daily newspaper published in the City of Mobile, Alabama, and for a like number of times in a daily newspaper published in the City of Chicago, Illinois; and any new Trustee appointed by the Gas Company shall immediately and without further act be superseded by a Trustee, appointed by the bondholders in the manner above provided, prior to the expiration of one year after such publication of notice. Every such Trustee appointed by the bondholders or by the Gas Company shall always be a Trust Company in good standing, having a capital and surplus aggregating two million dollars, if there be such a Trust Company willing and able to accept the trust upon reasonable or customary terms.

Any new Trustee appointed hereunder shall execute, acknowledge and deliver to the Trustee last in office, and also to the Gas Company, an instrument accepting such appointment hereunder, and thereupon such new Trustee, without any further act, deed or conveyance, shall become vested with all the estates, properties, rights, powers, trusts, duties and obligations of its predecessor in trust hereunder, with like effect, as if originally named as Trustee herein; but the Trustee ceasing to act shall, nevertheless, on the written request of the Gas Company, or of the new Trustee, execute and deliver all necessary instruments transferring to such new Trustee, upon the trusts herein expressed, all the estates, prop-

erties, rights, powers and trusts of the Trustee so ceasing to act, and shall duly assign, transfer and deliver all properties and moneys held by such Trustee to the new Trustee. Should any deed, conveyance or instrument in writing from the Gas Company be required by any new Trustee for more fully and certainly vesting in and confirming to such new Trustee such estate, rights, powers and duties, any and all such deeds, conveyances and instruments in writing shall, upon request, be made, executed, acknowledged and delivered by it.

ARTICLE XI.

In the event that at any time during the continuance of the trust hereby created, the plant and property of the Gas Company, or any part or portion thereof, shall be purchased by any municipality under the provisions of any existing or future ordinance or grant owned or controlled by the Gas Company, its successors or assigns, the amount so received from any such municipality from the sale of any such property, shall be paid direct to the Trustee hereunder, and shall be used and applied by said Trustee to the payment, redemption and retirement of the outstanding bonds secured hereby, in the same manner as provided in Article VI hereof for the disposition of the proceeds of properties sold by the Trustee.

Municipal
ownership.

ARTICLE XII.

Nothing contained in this indenture or in any bond hereby secured, shall prevent any consolidation or merger of the Gas Company with any other corporation or any conveyance, transfer or lease, subject to the continuing lien of this indenture and to all the provisions thereof, of all the mortgaged property, franchises and premises to any corporation lawfully entitled to acquire the same; provided, however, that

Consolidation.

such consolidation, merger, sale or lease shall be upon such terms as to preserve and not impair the lien and security of this indenture, or any of the rights or powers of the Trustee or of the bondholders hereunder; and provided, further, that in case of such consolidation or merger, conveyance, transfer or lease then any such corporation with which the Gas Company may be consolidated or merged, or to which the property, franchises and premises of the Gas Company may be conveyed, transferred or leased, or the successor of any such corporation, shall keep separate account of the tolls, earnings, rents, issues and profits and other income of such property, franchises and premises, and of the expenses incurred in managing, operating and using the same, and such net income, after paying the expenses of operating and maintaining the said property, franchises and premises and of conducting the business thereof and the taxes and rentals thereon, shall be first applied to the payment of the interest accruing and maturing upon the bonds issued hereunder.

ARTICLE XIII.

Covenants are
binding on
successors.

SECTION 1. All of the covenants, stipulations, promises, undertakings and agreements herein contained, by or on behalf of the Gas Company, shall bind its successors and assigns, whether so specified or not. For all purposes of this Indenture, including the execution, issue and use of any of the bonds hereby secured, the term "Gas Company" includes and means not only the party of the first part hereto, but also its successors and assigns.

SEC. 2. The word "Trustee" means the Trustee for the time being, whether original or substituted. The words "Trustee," "Bond" and "Bondholder" shall include the plural as well as the singular number, unless otherwise specified. The word "Coupons" refers to the coupons attached to the bonds secured hereby.

IN TESTIMONY WHEREOF, the parties hereto have caused this Indenture to be executed in triplicate by their respective duly authorized officers, and their respective corporate seals to be hereunto affixed the day and year first above written.

MOBILE GAS COMPANY,
By HENRY M. DAWES,
President.

Attest:

L. J. DAVIS,
Asst. Secretary.

Signed, sealed and delivered by the Mobile Gas Company, in the presence of:

C. W. DEMMON,
R. M. MACKENZIE,
Witnesses.

CENTRAL TRUST COMPANY OF ILLINOIS,

By W. IRVING OSBORNE,
Vice-President.

(SEAL)

Attest:

ALBERT G. MANG,
Secretary.

Signed, sealed and delivered by the Central Trust Company of Illinois, in the presence of:

J. L. LEHNHARD,
E. R. BAKER,
Witnesses.

STATE OF ILLINOIS, }
COUNTY OF COOK. } ss.

I, F. J. Carroll, a Notary Public in and for the State and County aforesaid, HEREBY CERTIFY that Henry M. Dawes, whose name is signed to the foregoing mortgage or deed of trust as the President of MOBILE GAS COMPANY, and L. J. Davis, whose name is signed thereto as Assistant Secretary of said Company, and who are each personally known to me and also known to me to be the President and Assistant Secretary, respectively, of said Company, acknowledged before me, on this day, that the seal affixed to the foregoing instrument is the corporate seal of said MOBILE GAS COMPANY, the corporation described in and which executed the above instrument; that it was so affixed by order of the Board of Directors of said corporation; that they signed their names thereto by like order; and that, being informed of the contents of said instrument, and having been duly authorized thereunto, they executed the same voluntarily, on the day the same bears date, in the name of and for and on behalf of the MOBILE GAS COMPANY, by signing its name thereto and attaching its corporate seal, and attesting the same by their official signatures.

GIVEN under my hand and notarial seal this 9th day of February, A. D. 1910.

My commission expires July 12, 1911.

(SEAL) F. J. CARROLL,
Notary Public, Cook County, Illinois.

STATE OF ILLINOIS, }
COUNTY OF COOK. } ss.

I, Geo. T. Parkhurst, Notary Public, in and for the State and County aforesaid, HEREBY CERTIFY that W. Irving Osborne, whose name is signed to the foregoing mortgage or deed of trust as the Vice-President of CENTRAL TRUST COMPANY OF ILLINOIS, and Albert G. Mang, whose name is signed thereto as Secretary of said Company, and who are each personally known to me, and also known to me to be the Vice-President and Secretary, respectively, of said Company, acknowledged before me, on this day, that the seal affixed to the foregoing instrument is the corporate seal of said CENTRAL TRUST COMPANY OF ILLINOIS, the corporation described in and which executed the above instrument; that it was so affixed by order of the Board of Directors of said corporation; that they signed their names thereto by like order; and that, being informed of the contents of said instrument, and having been duly authorized thereunto, they executed the same voluntarily, on the day the same bears date, in the name of and for and on behalf of the CENTRAL TRUST COMPANY OF ILLINOIS, by signing its name thereto and attaching its corporate seal, and attesting the same by their official signatures.

GIVEN under my hand and notarial seal this 9th day of February, A. D. 1910.

My Commission expires September 17, 1912.

(SEAL) GEO. T. PARKHURST,
Notary Public, Cook County, Illinois.

STATE OF ALABAMA, {
MOBILE COUNTY. }

PROBATE COURT.

Feb. 15, 1910.

Filed in this office this day and duly recorded in Mortgage Book No. 66 N. S., pages 73 to 93, inclusive.

P. WILLIAMS, JR.,
Judge of Probate.
By P. WILLIAMS,
Clerk.

STATE OF ALABAMA, {
MOBILE COUNTY. }

I, Price Williams, Jr., Judge of Probate for said county, hereby certify that the following privilege tax has been paid on the within instrument as required by acts 1902 and 1903, viz.: \$4,500.

P. WILLIAMS, JR.,
Judge of Probate.
By P. WILLIAMS,
Clerk.





UNIVERSITY OF ILLINOIS-URBANA



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